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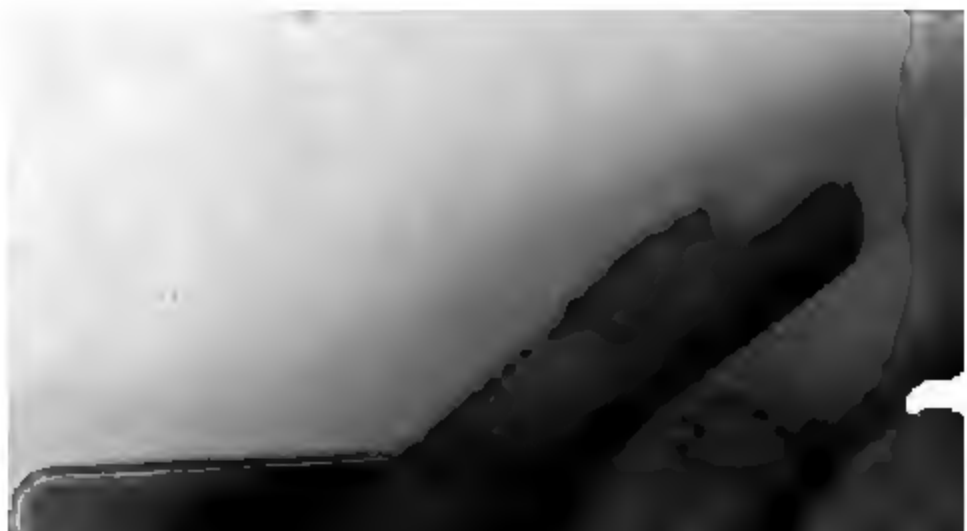
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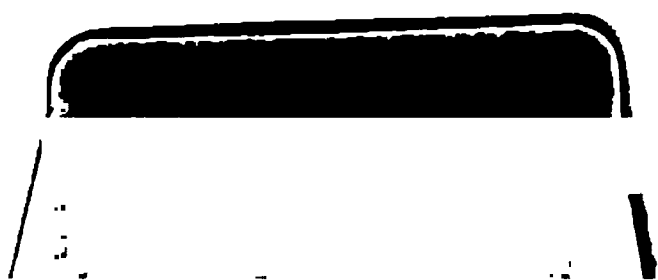
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A
CYCLOPÆDIA
OF
COMMERCE,
MERCANTILE LAW, FINANCE,
AND
COMMERCIAL GEOGRAPHY:

COMPRISING

**DESCRIPTIVE AND STATISTICAL ACCOUNTS OF
COMMODITIES, WITH CUSTOMS AND EXCISE
REGULATIONS, DUTIES, &c.**

**COMMERCIAL STATISTICS OF THE DIFFERENT
COUNTRIES OF THE WORLD, INCLUDING THEIR
PHYSICAL CHARACTER, PRODUCTIONS, TRADE,
SEAPORTS, MONIES, MEASURES, FINANCES, &c.**

**COLONIES, SHIPPING, PUBLIC COMPANIES, RAIL-
WAYS, ROADS, DOCKS, POST-OFFICE, &c.**

**SUMMARY OF THE PRINCIPLES OF COMMERCE,
FINANCE, AND BANKING, WITH HISTORICAL
AND STATISTICAL ILLUSTRATIONS.**

**DIGEST OF COMMERCIAL LAW, INCLUDING IN-
SURANCE, PARTNERSHIP, PRINCIPAL AND
AGENT, BILLS OF EXCHANGE, SALE, GUAR-
ANTY, BANKRUPTCY, SHIPPING, AND CON-
TRACTS AND OBLIGATIONS IN GENERAL.**

**COMMERCIAL ARITHMETIC AND ACCOUNTS, EX-
CHANGES, COINS, MEASURES AND WEIGHTS,
PUBLIC FUNDS, INTEREST, ANNUITIES, AND
ASSURANCES, WITH NUMEROUS TABLES.**

**EXPLANATION OF MERCANTILE TERMS AND
USAGES, BESIDES A VARIETY OF MISCELLA-
NEOUS INFORMATION.**

WITH FOUR MAPS.

BY WILLIAM WATERSTON, ACCOUNTANT.

THE LAW ARTICLES CONTRIBUTED

BY JOHN HILL BURTON, ADVOCATE.

EDINBURGH:
OLIVER & BOYD, TWEEDDALE COURT.
LONDON: SIMPKIN, MARSHALL, & CO.

1843.

especially Britain. A descriptive list of its principal seaports is next given ; and the article is closed with a table containing an account of its measures, weights, and monies, its banks, finances, &c.

Commercial Law, a department for which the Author is indebted to Mr BURTON, Advocate, occupies a large portion of the Work ; the articles being given with a fulness which, it is hoped, may for all common purposes make a reference to other books unnecessary. Besides furnishing a digest of the mercantile, maritime, and bankrupt laws of England, it sets forth the peculiarities which belong to Scotland, including the sequestration law, as well as some of those which belong to Ireland. An explanation is likewise given of the chief points of international law which affect the interests of the merchant and shipowner. No apology is deemed necessary for committing this department to a member of the Scottish bar ; since the leading principles of the mercantile code are the same in all parts of the empire, and where there are important differences, they are generally created by statute, and are thus in a condition to be distinctly explained, through quotations from, or analyses of, the acts in which they appear.

The remainder of the Work cannot be classified. It includes, as indicated in the title, articles on Commerce, Money, Banking, Taxation, and Credit ; on Railways, Roads, Canals, Docks, the Post-Office, and Lloyd's ; the Customs and Excise Regulations ; an account of the Funding System, Colonies, and the East India Company ; Life Assurance, Interest and Annuities ; articles under the heads Quarantine, Lighthouse, Book-keeping, Exchange, Measures and Weights, and Measures and Divisions of Time, Stamp-duties, Friendly and Loan Societies, Emigrant, Prussian Customs Union, and Patents, Pawnbroking, and such like ; besides an explanation of mercantile terms and usages, and a considerable body of miscellaneous information. The article on Interest and Annuities is given with a copiousness which the Author flatters himself is rarely to be found, except in works exclusively devoted to the subject : it contains a variety of useful tables, including, by the kind permission of JOSHUA MILNE, Esq., the eminent Actuary of the Sun Assurance Office, an abridgment of his Carlisle Tables.

The best sources of information have been consulted in preparing the different articles ; and a free use has throughout been made of the returns laid before Parliament, of the statistical volumes annually issued by the Board of Trade, and of the reports which have emanated from the commissioners deputed by our government to inquire into the manufactures and commerce of foreign countries. Not a few of the articles have been revised by manufacturers and others experienced in the matters to which they relate.

As to errors, whether in the statement of facts or in deductions from premises, some such are unavoidable in every large work, however carefully the writer may have discharged his duty ; and where the contents are so varied as in the present volume, the causes of mistake must be still more numerous. The Author, while on this ground he solicits indulgence, can at least say, that no exertions have been spared to procure sound information, to convey it in clear and concise language, and generally to produce a work at once accurate and useful.

The volume is closed with a short Supplement, bringing down to the present time the information contained in the early part.

EDINBURGH, *May* 1843.



CYCLOPÆDIA OF COMMERCE.

AAM

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AAM. [Abm.]

ABANDONMENT, in *Marine Insurance*, takes place in those circumstances where the insured may claim as for a total loss. The insured may abandon when, by any of the events insured against, the voyage is lost, or is not worth pursuing,—where the subject is so damaged as to be of no value to the owner,—where the salvage is very high,—where the part saved is of less value than the freight,—or where farther expense is necessary, and the insurer will not undertake to defray it. Where abandonment is accepted by the underwriters, or a total loss paid for, a subsequent recovery will not give a right to revoke the transaction. The insured is in no case bound to abandon. In France, Spain, and Holland, the time for giving notice of abandonment is limited by law: in Britain it depends on circumstances. Where the insured receives intimation of a total loss, he must communicate his election to the underwriter without delay. He is entitled to a reasonable time for ascertaining the state of the case, but must not treat it in the first instance as a partial loss, and abandon on finding his choice disadvantageous. The underwriter, if he object to the abandonment, must give timely notice. [INSURANCE (*Marine*). *Loss*.] (*Park*, 228-282. *Marshall*, 563-627.)

ABBREVIATION, the contraction of a word or phrase, made either by omitting some of the letters, or by substituting certain characters in their place. Abbreviations were anciently much employed in order to save the labour of copying; and even after the invention of printing, they continued so prevalent, and in some cases became so unintelligible, that Parliament at last restrained their use in legal documents. A few of those most frequently used in commerce, and for general purposes, are subjoined:—

A. D. the year of our Lord
A. C. the year of Christ
B. C. before Christ
A. M. the year of the World
A. H. the year of the Hegira
O. S. Old style
N. S. New style
A. M. Forenoon
P. M. Afternoon
Xmas. Christmas
The^o. the last month
The^o. the present month
The^o. the next month
The^o. the month after date
The^o. Days after sight
The^o. Days after date
The^o. of the one
The^o. of the other
The^o. of the same

No. Number
Co. Company
I. e. that is to say
P. S. Postscript
L. S. the place of the seal
MS. Manuscript
N. B. Observe
E. G. for the sake of example
N. E. North-east, east, south,

N. W. North-west, west, north,
Company
Company's

per cent.
£ or L. Pound
s. D. Shillings and pence
F. or q. Farthings
\$ or D. Dollars
M. Mils.
fr. c. France and cents
R. R. Ropes
A. B. P. Acres, rods, poles
Cwt. Qr. lb. Hundredweight,
quarter, pound
Oz. dwt. gr. Ounce, pennyweight,
grain
Hbd. bar. pan. Hoghead, bar-
rel, purchase
Gal. qt. pt. Gallon, quart, pint
Qr. lb. Quarter, pound
Yard, foot, inch
Mile, furlong, rod, perch, pole, paces, chain, link, girdle, span, cubit, ell, fathom, furlong, mile, league, day, week, month, year, decade, century, millennium, aeon, epoch, era, period, age, generation, life, death, resurrection, judgment, day, week, month, year, decade, century, millennium, aeon, epoch, era, period, age, generation, life, death, resurrection, judgment

tional acceptance, but if he do so, he will be held to have made his election. To preserve the responsibility of drawers and indorsers entire, notice of a condition to an acceptance should be immediately sent them. By 1 and 2 Geo. IV. c. 78, the acceptance of inland bills must be in writing on the bill. This applies to bills which are both drawn and accepted within any one of the three divisions of the empire. A similar rule applies to all bills, whether foreign or inland, in Scotland. Foreign bills in England and Ireland may be accepted verbally, or by a writing apart. A notification that the bill has "been presented" or "seen," or a statement that "it shall meet with due honour," is sufficient. By custom, the drawee is allowed twenty-four hours, or till next day, to consider whether he shall accept, unless the post leave in the interim. If acceptance be refused or delayed, a protest should be taken,—in any part of the empire in the case of a foreign bill, and in Scotland in the case of either an inland or foreign bill; and notice should immediately be transmitted to any party liable, intimating the non-acceptance, and that recourse is to be had against him. In Scotland, though acceptance must be made by signature on the bill to give it the legal privileges, an action against the drawee may be grounded on a separate engagement to accept, especially if a third party has advanced money on it; and if the drawee has funds of the drawer in his hands, presentment and protest for non-acceptance with notice, will operate as an assignation of them. [ASSIGNMENT.] Acceptance cannot be withdrawn after the bill is returned to the holder.

A bill may be accepted by procuration, but the holder is not bound to take such acceptance, unless a clear and express authority from the principal be produced. Acceptance is held a recognition of the drawer's signature, so as to preclude the acceptor from pleading against an onerous holder that it is forged; but it is not held an admission of an indorser's signature, though the acceptor must be considered bound to notice any condition attached to an indorsement. In England, a collateral undertaking may be constituted by a second acceptance, that is, an engagement to pay the bill if it is not honoured by the first acceptor. In Scotland, a second acceptor is primarily liable with the first, and thus one who signs a bill with a view of being a cautioner merely, will be liable as a principal acceptor. The payee, by accepting, transfers the debt from the drawer's shoulders to his own: he is thenceforth considered the party liable; and after the bill is in circulation, when it is paid, it is presumed to be with the acceptor's funds. Although the bill were not drawn for value, the acceptor is presumed to have had value for it, and he can only redargue the presumption by evidence, which in Scotland must be written, unless it be admitted by the party on oath that there was no value.

Acceptance for Honour or Supra Protest is an engagement to pay the bill if not paid by the drawee, entered on after it is protested against the latter for non-acceptance. It is performed by a party who professes to be under no obligation to accept, and for the purpose of preventing the bill from being returned dishonoured. It may be by a third party, in the absence of, or on the refusal of the drawee, or it may be by the drawee himself, who refuses to accept the draft of the drawer, but accepts for the honour of an indorser. The drawee may even refuse to accept the bill absolutely, and may then, after protest, accept for honour of the drawer. The acceptor for honour only renders himself liable in a recourse, in case of non-payment by the proper party, and so the bill should be presented to the drawee for payment when it falls due, notwithstanding his refusal to accept it. The acceptor for honour has recourse against the person for whose honour he has accepted, and succeeds to whatever claim that person may have against the drawee. (*Bayley on Bills*, 171-215. *Chitty on Bills*, 307-383. *Thomson on Bills*, 329-368.) [ACCOMMODATION BILL. BILL. NOTICE. PRESENTMENT. PROTEST.]

ACCOMMODATION, a significant term applied by merchants to the credit fabricated by means of a bill of exchange, drawn solely for the purpose of being discounted, and not sanctioned by an actual sale of goods. Such a bill is called an *accommodation bill*, also a *wind bill*, a *kite*, or a *fictitious bill*. Accommodation bills are of various kinds. The following description of one may suffice:—A being in want of £100, requests B to accept a bill drawn at two months, which B therefore, on the face of it, is bound to pay; it is understood, however, that A will take care either to discharge the bill himself, or to furnish B with the means of paying it. A obtains ready money for the bill on the joint credit of the two parties. A fulfils his promise of paying it when due, and thus concludes the transaction. In general, accommodation bill transactions are carried on for the joint benefit of the parties, by means of *cross acceptances*, or bills mutually drawn, accepted and exchanged; and where two names are not enough, others are obtained sufficient to

give currency to the bills. The payment of these bills is, among needy men, provided for by their again reciprocally drawing upon each other ; and this is repeated until the system of expedients failing, bankruptcy sooner or later overtakes the principal parties, and, not unfrequently, all who are brought within the circle of their operations. The loss of credit which the use of accommodation paper, when once perceived, generally occasions,—the expense of stamps, and higher rates of discount, and particularly the double liability for the sums for which cross acceptances are given, should deter the respectable merchant from having recourse to this dangerous expedient. But it must be admitted, at the same time, that where, from some unexpected event, or commercial revulsion, a merchant is unable to bring his commodities to a fair market so as to meet his payments, his credit may be saved by the temporary assistance of friends, through the medium of bills, and he may be enabled to hold his goods till some proper opportunity of sale presents itself ; and (although such contingencies cannot be too anxiously guarded against) there are perhaps few who have transacted business long and extensively, who have not, at particular times, received support in this way.

It is sometimes said that real bills represent real capital, while accommodation bills are a species of false and delusive wealth, which supply only an imaginary capital ; but this supposition, Mr Thornton remarks, is “ one by which more than justice is done to one of these species of bills, and something less than justice to the other.” “ The notes given in consequence of a real sale of goods cannot be considered as on that account *certainly* representing any actual property. Suppose that A sells £100 worth of goods to B at six months’ credit, and takes a bill at six months for it ; and that B, within a month after, sells the same goods at a like credit to C, taking a like bill, and again that C, after another month, sells them to D, taking a like bill, and so on ; there may then, at the end of six months, be six bills of £100 each existing at the same time ; and every one of these may possibly have been discounted. Of all these bills, then, one only represents any actual property.” “ In order to justify the supposition that a real bill (as it is called) represents actual property, there ought to be some power in the bill-holder to prevent the property which the bill represents from being turned to other purposes than that of paying the bill in question. No such power exists ; neither the man who holds the real bill, nor the man who discounts it, has any property in the specific goods for which it was given : he as much trusts to the general ability to pay of the giver of the bill, as the holder of any fictitious bill does. The fictitious bill may, in many cases, be a bill given by a person having a large and known capital, a part of which, the fictitious bill may be said, in that case, to represent.”

“ We come next to some points in which they differ. First, The fictitious note, or note of accommodation, is liable to the objection that it professes to be what it is not. This objection, however, lies only against those fictitious bills which are passed as real. In many cases, it is sufficiently obvious what they are. Secondly, The fictitious bill is in general less likely to be punctually paid than the real one. There is a general presumption that the dealer in fictitious bills is a man who is a more adventurous speculator than he who carefully abstains from them. It follows, thirdly, That fictitious bills, besides being less safe, are less subject to limitation as to their quantity. The extent of a man’s actual sales forms some limit to the amount of his real notes ; and as it is highly desirable in commerce, that credit should be dealt out to all persons in some sort of regular and due proportion, the measure of a man’s actual sales, certified by the appearance of his bills, drawn in virtue of those sales, is some rule in the case, though a very imperfect one in many respects.”

“ A bill of accommodation is evidently in substance the same as any common promissory note ; and even better, in this respect,—that there is but one security to the promissory note, whereas, in the case of the bill of accommodation there are two. So much jealousy subsists lest traders should push their means of raising money too far, that paper, the same in its general nature with that which is given, being the only paper which can be given by men out of business, is deemed somewhat discreditable when coming from a merchant.” “ Bills of exchange are drawn upon London to a great amount, from all parts, not only of Great Britain, but of the world ; and the grounds on which they have been drawn in a great degree elude observation. A large proportion of them, no doubt, partakes of the nature of bills of accommodation. They have, however, in general, that shape communicated to them, whatever it may be, which is thought likely to render them discountable ; and it is not difficult to make use of some real, and, at the same time of many seeming transactions of commerce, as a ground for drawing, and as a means of multiplying such bills.” The operation of drawing and redrawing bills may obviously be carried on betwixt merchants in London and others abroad, “ partly for the purpose of raising money, and partly for that of profiting by a small turn in the exchange. Transactions which are the converse to this, are on the other hand entered into by those who happen to possess ready money. They remit, if the exchange seems to favour their remittance, and draw in consequence of having remitted. To determine what bills are fictitious or bills of accommodation, and what are real, is often a point of difficulty. Even the drawers and remitters themselves frequently either do not know, or do not take the trouble to reflect whether the bills ought more properly to be considered as of the one class or of the other ; and the private discounter or banker to whom they are offered, still more frequently finds the credit of the bills to be the only rule which it is possible to follow in judging whether he ought to discount them.” (*Thornton on Paper Credit*, c. 2.)

LAW AS TO ACCOMMODATION BILLS.—These documents differ in no respect from the form of ordinary bills : their legal effect, however, is different as respects parties between whom they do not represent a real debt. The drawer is generally the person accommodated, the acceptor not being indebted to him, but merely putting his name on the bill, to give it currency in the market ;—if he have to retire it, therefore, the drawer becomes his creditor. That the paper is merely an accommoda-

tion bill, as between any two parties who appear on it, cannot, however, be a defence against a third who has given value for it, and even though he knew it to be an accommodation bill when he took it, he has the ordinary means of obtaining payment. A person who appears as debtor on a bill or note, is always presumed to have had value, and in a question with the immediate creditor, he must prove want of value by evidence; in Scotland, the evidence must be writ or oath. In a purely accommodation bill, the drawer is not entitled to notice of dishonour, the use of notice being to enable the drawer to take precautions for his safety and indemnification, if he has funds in the drawee's hands; but it can never be safe to omit notice, for if the drawer had at any time, from the period of drawing to that of acceptance, funds in the drawee's hands, he is entitled to notice. [BILL. ACCEPTANCE. NOTICE.]

ACCOUNT, a term applied generally to a computation, reckoning, or statement of any thing by numbers.

ACCOUNT-CURRENT is a statement of the transactions betwixt two parties, drawn out chronologically in a plain circumstantial manner, and disposed in the form of debtor and creditor on opposite pages.

ACCOUNT SALES is a document giving a detailed statement of the sale of goods. It exhibits the quantities and values of the goods sold, the attendant charges, and the net proceeds.

ACCOUNT OF CHARGE AND DISCHARGE in some respects resembles an account-current, but differs considerably in form, as instead of charging the several sums at the time they are received, the whole articles with which the party is intrusted are charged at once on one side, while the other side, or discharge, shows the manner in which he has accounted for the same. "The system of accounting by charge and discharge is the old exchequer practice, a remnant of the times when the only accounting parties were debtors to the king, or stewards and bailiffs to their lords; and the system is applicable only to accounts of a similar nature; such as debtors to their creditors, agents to their principals, trustees to their *cestui que* trusts, or the like; in all which, one party only is the accountant, and the other a creditor." (*Cory on Accounts*.)

Merchants usually prefix the initials E. E. (for *Errors Excepted*) to their signature to accounts; but the omission of these letters forms no bar to the subsequent correction of errors.

Cross accounts, when of long standing and complicated, are fruitful sources of disputes. In England, such disputes are either referred to arbitration, or made the subject of a bill in Chancery. One fifth at least of the business of that Court is accounts, the ordinary duties connected with which are performed by twelve officers called "Masters in Chancery." In Scotland, where arbitration is less frequent, and where there is no establishment of particular persons for the purpose of settling disputed accounts, the business is in general left to the ordinary courts, by whom (or by the parties, subject to their approval) a person is selected from the practising accountants to investigate and report upon the details. [BOOK-KEEPING. BOOK-DEBT.]

ACETIC ACID, formerly called *radical vinegar*, is the sour part of vinegar, and that to which its peculiar and valuable properties are owing. It is obtained, 1st, By the fermentation of saccharine matter. 2dly, By the distillation of wood. The product of the former constitutes, when diluted, the common vinegar, which abroad is made from wine, and in this country from an infusion of malt, termed *wort*. Revenue proof vinegar, termed by the maker No. 24, is calculated to contain 5 per cent. of pure acetic acid. Sp. gr. 1.0085. The acetic acid from wood is obtained by the destructive distillation of the dried branches of trees in hollow iron cylinders. The hard woods, such as oak, ash, birch, and beech, are alone used; and the average product of crude acid from 8 cwts. of wood is 35 gallons. This acid, formerly called *pyroligneous acid*, is now largely employed, when purified, for almost all the purposes to which acetic acid or common vinegar is applied. Acetic acid, when pure, is fluid (except at a low temperature, when it crystallizes), volatile, and colourless, of an exceedingly pungent smell, and very acid taste. In this state it is used in chemical investigations. In a less pure state, it is employed for preparing acetate or sugar of lead, acetate of copper or verdigris, and acetate of alumina, largely used by calico-printers and dyers as a mordant. In the form of pyroligneous acid it is employed to preserve meat, and in the state of vinegar it is applied to a variety of purposes too well known to require notice. (*Brande's Chemistry, &c.*) Acetic acid is frequently contaminated with sulphuric acid, which, however, is readily detected by the addition of the acetate or sugar of lead, when an insoluble sulphate is precipitated should any sulphuric acid be present. [VINEGAR.]

ACIDS, a most important class of chemical compounds. According to Dr Ure, they are distinguished by the following general properties:—1. Their taste is for the most part sour; and in the stronger species it is acrid and corrosive. 2. They generally combine with water in every proportion, with a condensation of volume and evolution of heat. 3. With a few exceptions, they are volatilized or decomposed at a moderate heat. 4. They usually change the purple colours of vegetables to a bright red. 5. They unite in definite proportions with the alkalis, earths, and metallic oxides, and form the important class of *salts*. This may be reckoned their characteristic and indispensable property. There is, however, no

single acidifying principle, nor absolute criterion of power among the different varieties. Acids are derived from all the kingdoms of nature, and except in the few particulars above named, they vary greatly in their properties. Some are gaseous in form, others are fluid or solid. Most of them are colourless ; some are inodorous ; while others are pungent. The most important, in a commercial point of view, are the Acetic, Benzoic, Boracic, Citric, Gallic, Muriatic, Nitric, Nitro-muriatic, Nitrous, Oxalic, Prussic, Sulphuric, Sulphurous, and Tartaric ; an account of which will be found under these several heads.

ACKER WOOD, a fancy wood of a cinnamon colour.

ACORUS, or **SWEET FLAG**, a medicinal plant (*Calamus aromaticus*), found in moist situations in many parts of Europe and Asia. It was formerly imported from the Levant, but is now obtained equally good from marshes near Norwich. It is slightly aromatic, and is occasionally used as a stimulant. The part employed is the dried creeping stem, improperly termed root, which should be chosen tough, cleared from fibres, and free from worms—to which it is very subject.

ACQUITTANCE. [RECEIPT.]

ACRE, a measure of land. The imperial standard acre contains 4 roods, 160 square perches, 4840 square yards, or 10 square chains ; and 640 acres make 1 square mile. 1 Scots acre = 1·2612 imp. acre ; or 134 Scots acres = 169 imp. acres nearly. 30½ Irish acres = 49 imp. acres. 1 imp. acre = ·4047 French hectare ; or 42 acres = 17 hectares nearly.

ACTS OF BANKRUPTCY, in the law of England and Ireland, are those acts or events which the law takes as a criterion that a tradesman is bankrupt. "Acts of bankruptcy," says Lord Henley, "may be divided into two classes : 1st, Those acts which, being in themselves indifferent or equivocal, derive their character from the intent with which they are done ; and, 2d, Those which are in themselves substantive acts of bankruptcy, and where the intent is perfectly immaterial" (17). Those of the first class are ranged in the bankrupts' act (6 Geo. IV. c. 16, § 3) as follows : 1st, "If any such trader shall depart this realm, or, 2d, being out of this realm, shall remain abroad." The departure, or remaining abroad, must be with the intent of delaying creditors, and, if the intent is not shown, the fact that they have been delayed is immaterial. "As where one goes abroad to avoid a criminal process, or a writ *de excommunicato capiendo* : or a process to enforce a duty, as a decree to execute a conveyance : or if he goes abroad with the knowledge and consent of his creditors" (*Henley's B. L.* 17). "In some cases where the trader has gone abroad, under circumstances which render it highly improbable that he would return to this country, *ex gr.* where he had committed murder, it will be inferred that he must have intended to delay his creditors, such being the necessary consequence of his behaviour" (*Smith's Mercantile L.* 472). The alternative act of remaining abroad was inserted in the last statute to prevent one who had gone abroad with different views, from remaining absent, on hearing that his affairs were embarrassed, without being liable to the consequence of having committed an act of bankruptcy ; 3d, "or depart from his dwelling-house." Here, as in the former case, the intent to delay is the material circumstance, and where a creditor left his house, though under a false apprehension that officers who called had authority to arrest him, when they had not, it was an act of bankruptcy (*Exp. Bamford*, 1808 ; 15 *Vesey*, 449) ; 4th, "or otherwise absent himself." This embraces most of those attempts to keep out of the way of a creditor, which do not come within the previous more narrow definitions. The intent to delay is necessary. The absenting does not require to be from the dwelling-house, or even the principal place of business. "A trader," says Mr Smith, "may commit an act of bankruptcy, by absenting himself from his own regular place of business, in which a man would be expected to be, or from some other place where he expected to meet those to whom he was indebted ; for instance, the Royal Exchange, in order to delay his creditors. But the mere fact of a trader's absenting himself from a place at which, though he had once transacted business there, it did not appear that he had any business to transact at the time of his staying away from it, and at which, therefore, he would not, in the ordinary course of things, be expected to be present, will not warrant a jury in concluding that he had committed an act of bankruptcy, by absenting himself, in order to delay creditors. But no case, it is said, has yet gone the length of deciding that where the appointment was to meet a creditor at his, the creditor's, and the debtor breaks that appointment, such conduct amounts to an act of bankruptcy" (473).

5th, "Or begin to keep his house," that is, if he begin to seclude himself, so as to prevent his creditors from communicating with him, as, by retiring from his shop to his parlour, or by closing the doors and windows of his place of

business. Formerly the only admitted evidence of keeping house, was proof of directions to deny access to a creditor, and of access denied accordingly. The seclusion may now, however, be shown by other unequivocal facts, and it is not necessary when a direction to deny access is proved, to prove that it was obeyed. Where the conduct of the individual is, however, otherwise equivocal, evidence of denial will be required. Where a trader bade his servant tell any creditor who might call that he was not at home, and on a creditor calling he was so told, though the debtor was at home and ill, and might have validly excused himself on that ground, it was laid down that a jury might find it to be an act of bankruptcy (*Lazarus v. Waithman*, 1821 ; 5 *Moore* 313). On the other hand, if a creditor is simply denied access, the circumstance may be explained away on the ground of illness or engagement. "A mere direction by a trader to deny him to a creditor, if he do no further act indicative of keeping house, such, for instance, as secluding himself, is not, *per se*, an act of bankruptcy : neither, on the other hand, is a denial, if he did not order it" (*Smith's Mercantile L.* 475). A denial in a friend's house, or on board a ship, may be an act of bankruptcy. A denial on a Sunday was held not to be so, though that day had been agreed on between the debtor and creditor for settling the account (*Exp. Preston*, 1813 ; 2 *V. and B.* 311).

6th, "Or suffer himself to be arrested for any debt not due ;" 7th, "or yield himself to prison ;" 8th, "or suffer himself to be outlawed ;" 9th, "or procure himself to be arrested ;" 10th, "or his goods, money, or chattels, to be attached, sequestered, or taken in execution ;" 11th, "or make, or cause to be made, either within this realm or elsewhere, any fraudulent grant or conveyance of any of his lands, tenements, goods, or chattels, or make or cause to be made any fraudulent surrender of any of his copyhold lands or tenements, or make or cause to be made any fraudulent gift, delivery, or transfer, of any of his goods or chattels." Deeds of the description here enumerated are divided into two kinds : 1st, "those which are void at common law, or under the statute of fraudulent conveyances, 13 Elizabeth, c. 5 ; and 2d, those which are considered fraudulent, as being in contravention of the policy of the bankrupt law, either by adopting a mode of distribution of the insolvent's property, different from that which the bankrupt law points out, or (which will embrace the consideration of the second of the above acts of bankruptcy) by being a preference of one or more creditors in fraud of the others" (*Henley's B. L.* 26). Those of the former kind are frauds in their own nature. The other class consists of acts, which, were they not performed by a trader, would not be held as frauds. These are, 1st, *an assignment or disposal of the whole of the trader's property*. Although the rule contemplated the defrauding of creditors by such an act, yet it is not the less an act of bankruptcy, though made in favour of the creditors themselves as a body. But the advantages of deeds of composition having been experienced for some time in Scotland, the rule was restricted by 6 Geo. IV. c. 16, § 4, which enacts, that a trust-deed for the benefit of all the creditors of a trader, shall not be considered an act of bankruptcy, unless a commission or *fiat* issue within six months. [COMPOSITION CONTRACT.] A creditor who has executed or been privy to, or has acted under, a general conveyance to creditors, cannot afterwards challenge it as an act of bankruptcy. The character of the act, it has been held, is not saved by the circumstance that the deed is only to be executed on certain conditions, as, if the trustees think fit, or if a commission of bankruptcy do not issue within a certain time. An exception of a very small portion of his property will not save a general disposal of a trader's effects from being an act of bankruptcy. The second kind of disposal contrary to the spirit of the bankrupt laws is one giving an unfair preference to any particular creditor. A merchant in solvent circumstances is always entitled to follow his own choice in the routine in which he may pay his creditors, and therefore it is only when it is done in contemplation of bankruptcy, and with the view of making an unequal distribution of the estate which is to become bankrupt, that such a preference constitutes an act of bankruptcy. It does not appear that the act will be one of bankruptcy however closely bankruptcy follow it, unless it was contemplated. Thus, where one purchased goods on October 8, for exportation, but finding that he must stop payment, and could not make use of the goods, returned them on October 16, and stopped payment next day, but expected, that, as he had to receive remittances from abroad which would enable him to pay in full, his creditors would give him time, but they refusing, he was made bankrupt on November 2 ; this was held not to be an act of bankruptcy (*Fidgeon v. Sharp*, 10th May 1814, 1 *Marsh.* 196). To constitute an act of bankruptcy, the assignment must be voluntary. "Therefore a payment or delivery under the threat or apprehension (however unfounded) either of a criminal or civil process is valid : or where the trader acts from the mere

importunity of the creditor, or, as in *Smith v. Payne* (6 T. R. 152), where the creditor knowing it was in vain to ask for money, pressed the trader to let him have goods to the amount of his debt" (*Henley's B. L.* 33).

The following are the acts of bankruptcy which possess that character independently of the intention of the bankrupt : 1st, Where a trader arrested for debt, or on any attachment for non-payment of money, lies in prison twenty-one days on that or any other similar commitment, or having been arrested for any other cause lies for twenty-one days in prison after a detainer of debt is lodged against him and not discharged (6 Geo. IV. c. 16, § 5). "The debt must be a real subsisting *legal* debt; a mere equitable demand is not sufficient; a penalty due to the crown is" (*Smith's Mercantile L.* 486). The day of arrest is included in computing the period which is not considered as completed until the expiry of the last of the twenty-one. In case of bail, the time is computed from the date of surrender in discharge of it, "unless the surrender were merely *pro forma*, the defendant never having been out of custody since the arrest, in which case the time runs from the arrest, as it will, if he have, in consequence of sickness, been kept part of the time at his own house, or have had the benefit of day rules during the period. But where he had been suffered to go at large after the arrest, the time was computed from his return into custody" (*ib.* 486). 2d, Escaping from an imprisonment of the above character. The escape must not be constructive, but real. 3d, A trader may voluntarily become bankrupt by filing in the secretary of bankrupts' office a declaration of insolvency, attested by an attorney or solicitor. A memorandum issued from the office then becomes a warrant for advertising the bankruptcy in the Gazette. No fiat, however, can issue on the act beyond two calendar months after insertion of the advertisement, or if the advertisement have not been inserted within eight days after the filing of the declaration (6 Geo. IV. c. 16, § 6). By the immediately following section it is enacted, "That no commission [*Fiat*] under which the adjudication shall be grounded on the act of bankruptcy, being the filing of such declaration, shall be deemed invalid by reason of such declaration having been concerted or agreed upon between the bankrupt and any creditor or other person." 4th, Compounding with the petitioning creditor, i. e. paying to the person who struck the docket, or enabling him to obtain a larger proportion of dividend than the other creditors. The favoured creditor forfeits his debt, and must refund.

By the act for partially abolishing imprisonment for debt, and for the relief of insolvent debtors (1 & 2 Vict. c. 110), the filing of a petition for discharge, under the act by a person in actual custody, is an act of bankruptcy from the date at which he took that step, and if a *fiat* be taken out before the time appointed by the court and advertised for the hearing of the petition, or if it be taken out within two months after the date at which the order to that effect was issued by the court, the provisional assignee in terms of the act is divested, but not otherwise (§ 39). By the same statute, it is an act of bankruptcy, if a creditor or creditors, to the amount requisite to authorize a petition for bankruptcy, having filed affidavits of their debts in the court of bankruptcy, the debtor do not pay them, or find security within twenty-one days (§ 8).

Act of Bankruptcy by a Member of Parliament.—By 6 Geo. IV. c. 16, § 9, If a member of parliament who is a trader commit any of the acts which are acts of bankruptcy in the case of ordinary traders, a commission may issue in the usual manner, but the member is not liable to arrest. By § 10, a creditor or creditors of the legal amount [BANKRUPTCY] may file affidavit of the debt in any of the courts at Westminster, and sue out a summons, with a copy of which the member of parliament may be served; and if he do not satisfy the creditor by payment or compounding, or enter into a bond with two sureties to pay any sum that may be recovered against him with costs, and enter appearance to the action within one calendar month after service of the summons, an act of bankruptcy is committed by him. By § 11, if a trading member of parliament disobey any order to pay money in the course of an action in a court of equity, the creditor may apply to the court to fix a peremptory day for the payment, and if the debtor, being served with the order eight days before the day appointed for payment, neglect to pay, he is to be held as having committed an act of bankruptcy from the time of service.

IN IRELAND by the bankrupt statute 6 Wm. IV. c. 14, § 19-27, the acts of bankruptcy of the English statutes 6 Geo. IV. c. 16, are enacted there, with this addition to the act marked above as No. 11, that the words "situate in England or Ireland or elsewhere" follow the words "or make or cause to be made any fraudulent surrender of any of his copyhold lands or tenements." [ASSIGNEES. BANKRUPTCY. COMMISSIONERS.]

ADAMANTINE SPAR, or COMMON CORUNDUM STONE, is, with the

exception of diamond, the hardest substance known. Sp. gr. 4. It contains about 90 per cent. of alumine, with a little iron and silica, and is generally of a pale gray or greenish colour, but sometimes of red and brown tints. It is found in India, China, and in some parts of Europe. The Indian variety is considerably whiter than the Chinese, and is usually deemed the purest. In the East it is used for polishing steel and cutting gems, but the European lapidaries prefer diamond powder.

ADEN, a seaport of Arabia, lying in 12° 52' N., 44° 59' E. about 100 miles E. of the entrance to the Red Sea. It was acquired by the East India Company in the year 1838, partly to facilitate the steam-navigation of that sea. The town is advantageously situated upon a noble promontory, which forms two bays, in the westernmost of which, or "Back Bay," a place has been selected for the formation of a coal depôt. This bay is accessible and sheltered, and at low water is nearly twenty feet in depth, within about thirty yards from the shore.

Aden was formerly the most opulent city in Arabia; and during the twelfth, thirteenth, and fourteenth centuries, was an important emporium in the European trade with India. It afterwards declined; and latterly, the town and its once imposing fortifications have been nearly a heap of ruins, inhabited by a miserable population of 600, composed of Jews, Banians, Arabs, and Barnalkies. Under the protection of the Company, however, there can be little doubt that it will again acquire much of its former consideration. Its local position and harbour give it a decided advantage over the ports of the Red Sea, by enabling vessels to perform several trips to and from India during the year; whereas the nature of the winds within the Straits of Bab el Mandeb are such, that more than one can seldom, if ever, be effected by a native vessel. The monopolizing spirit of the Egyptian government, at present, operates unfavourably upon British commerce with the countries adjoining the Red Sea; but it is considered likely, notwithstanding, that the rich products of Abyssinia, and of the neighbouring parts of Africa, consisting of gold-dust, ivory, coffee, gums, frankincense, hides, and sheep, will soon find their way to Aden, to form a return for the silks, cotton piece-goods, iron, and rice, which will be imported from Britain and India. To facilitate the sale of British and Indian goods throughout Arabia, it fortunately happens that the road leading to the interior is the nearest to the richest part of Yemen, and from which the celebrated coffee can be more easily conveyed to Aden than to Mocha. At present, it is the chief mart for the gums brought from Africa by the Somaules.

ADJUSTMENT, in *Marine Insurance*, a calculation of the sums to which the insured is entitled from the respective underwriters, on a loss occasioned by any of the risks insured against, generally prepared by a professional person, indorsed on the policy, and signed by the several underwriters. It is compared to a note of hand, being presumptive against them, and not requiring the consideration to be proved by the holder, but admitting of a valid defence being raised and proved by the underwriter. [INSURANCE (*Marine*). Loss. POLICY.]

ADMEASUREMENT. [TONNAGE.]

AD VALOREM (*Lat.*), according to the value. This term is used in commerce chiefly in reference to those duties (hence called *ad valorem duties*), which are levied on commodities at certain rates *per cent.* on their value.

ADVANCE commonly denotes money paid on the security of property consigned or deposited. Merchants frequently advance from one-half to two-thirds of the value of goods consigned to them on receiving invoice, bill of lading, &c. [BILL. PRINCIPAL AND AGENT. SALE. PROOF IN BANKRUPTCY, &c.]

ADVENTURE, a term sometimes used to express a shipment by a merchant on his own account. A *joint adventure* is where the shipment is made by two or more parties on joint account. [JOINT ADVENTURE.]

ADVERTISEMENTS in any newspaper, periodical, or literary work, are each subject to a stamp-duty of 1s. 6d., when printed and published in Great Britain; and of 1s. in Ireland. 3 & 4 Wm. IV. c. 23 (June 28, 1833). The revenue derived from advertisements amounted in 1839 to £125,026; of which, England, £101,357; Scotland, £13,928; Ireland, £9741.

One copy of every periodical or literary work (not being a newspaper), containing any advertisements liable to stamp-duty, published within London, Edinburgh, or Dublin, or within twenty miles, shall, within six days after publication, be brought, together with all advertisements printed therein or published, or intended to be published therewith, to the nearest head stamp-office; and the title thereof, and the name of the printer and publisher, with the number of advertisements; and the duty shall be there paid; and one copy, &c. in any place not within the above limits, shall, within ten days, be brought to the head distributor of stamps in the district, and to whom the duty shall be paid. Penalty for neglect £20. § 3. By 6 & 7 Wm. IV. c. 66, a penalty of £50 is imposed on persons advertising foreign or other illegal lotteries.

ADVICE, in commercial language, means information communicated *by letter*. The term is used chiefly in reference to bills of exchange.

"Bills are sometimes made payable 'as per advice;' at other times, 'without further advice.' (*Poth. pl.* 36, 169); and generally without any of these words. In the former case the drawee may not, but in the latter he may, pay before he has received advice." (*Chitty on Bills.*) [NOTICE.]

ADULTERATION is the deceitful mixture with any commodity of substances

of a different or baser nature. Adulteration is a fraud at common law. There are, however, statutes which afford a remedy in the greater number of cases ; and it is most expedient to proceed under these, more especially when they vest a summary jurisdiction in justices of the peace or other subordinate authorities. A full account of the statutes will be found in " Burn's Justice of the Peace."

AFFIDAVIT, a statement of the truth of a fact, given on oath, for which, since the passing of 5 & 6 Wm. IV. c. 62, declarations have been in several instances substituted. An affidavit must be made before some one who has authority to take it. When in reference to a suit in court, it ought to be made before the court in which the cause lies, or a commissioner authorized by it, and so an affidavit before a Master in Chancery will not be effectual in the Queen's Bench, and *vice versâ*. Affidavits are generally used to certify the service of process, or some other procedure in a court of justice, or in support of motions, or in opposition to them. The first step preparatory to an adjudication of bankruptcy, is for the petitioning creditor to make affidavit of the amount of the debt, and of his belief that the debtor has become bankrupt ; and affidavits are otherwise extensively employed, in the bankrupt codes of the three kingdoms. By 5 & 6 Wm. IV. c. 62, § 13, it is unlawful " for any justice of peace, or other person, to administer, or cause, or allow to be administered, or to receive, or cause, or cause or allow to be received, any oath, affidavit, or solemn affirmation, touching any matter or thing whereof such justice, or other person, hath not jurisdiction or cognisance, by some statute in force at the time being." The illegality is not to apply to oaths, connected with the preservation of the peace and the punishment of delinquents, or with proceedings before parliament, or with the requisites for the validity of deeds to be used in foreign countries. By § 2 of the statute just quoted, various public officers are enumerated, in the business of which declarations may, by authority of the Treasury, be substituted for oaths and affidavits. By § 11, a declaration is substituted for an oath in taking out a patent.

Affidavits are not indigenous to the law of Scotland, and hence voluntary affidavits before judges are not evidence unless appointed by the bankrupt and other statutes.

Form of Deposition to prove a debt in an English Bankruptcy.

At the Court of Bankruptcy,
London, 3d January 1840.

A B being sworn and examined, the day and year, and at the place above mentioned, upon his oath saith, that C D, the person against whom this prosecution of bankruptcy is awarded and issued, was at and before the date and suing forth of the same, and still is justly and truly indebted unto this deponent [and E F, his partner], in the sum of £100 [*in words*], for goods sold and delivered, for which said sum of £100, or any part thereof, he, this deponent, hath not [nor hath his said partner], nor any other person, to his [their] use, to his knowledge or belief, received any security or satisfaction whatsoever.

A B.

Form of Affidavit to the verity of a claim under a Sequestration in Scotland.

At Edinburgh, the third day of January, eighteen hundred and forty years.

In presence of A, one of her Majesty's Justices of the Peace for the city of Edinburgh, appeared B [or " B, one of the partners of B & Co." *as the case may be*], who being solemnly sworn, depones, that C is justly indebted, and resting owing, to him [or " to the company of which the deponent is a partner"], the sum of £100 [*in words*], according to the account hereto annexed. Depones that no part of the said sum is paid or compensated, nor does the deponent [or " nor does the deponent, or any of the partners of the said company"] hold any other person than the said C bound for the debt, or any security for the same, or any part thereof [except as stated in said account, or *as the case may be*]. All which is truth, as the deponent shall answer to God.

B

A. J. P.

AFFIRMATION is the solemn asseveration made by Quakers and Moravians in cases where an oath is required from others. The form prescribed is as follows :— " I, A B, do solemnly, sincerely, and truly declare and affirm." This privilege was first allowed by the act 7 & 8 Wm. III. c. 34 ; but it was confined to civil cases until the year 1828 when (9 Geo. IV. c. 32) it was extended to criminal cases. A false affirmation subjects the offender to all the penalties of perjury. By 3 & 4 Wm. IV. c. 82, the privilege was extended to the denomination called Separatists, and by 1 & 2 Vict. c. 77, to all persons who *have been* Quakers or Moravians, and who retain conscientious objections to oaths.

AFFREIGHTMENT, in the law of shipping, is the contract by which a vessel, or the use of it, or the use of some part of it, is let out on hire. The contract is of two kinds, *charter-party* and *general ship*, or *ship on general freight*. The contract does not require to be in writing, but if it be so it must be duly stamped. The obligations generally expressed, and always understood, on the part of the ship-master, are, that the vessel must be seaworthy, provided with all necessaries, and in every way fit for the voyage undertaken. The crew also must be sufficient in number and ability. Where such is the usage, he must have a pilot on board. The

vessel must be at the port ready to receive goods, for a reasonable period, and must sail at the appointed time, weather and tide permitting. She must be properly navigated, and also directed to her port of destination by the usual and approved course. If she deviate unnecessarily, the master and owners are responsible if loss be occasioned, though it should be by the act of God or the king's enemies. The master must not incur risk by sailing with contraband goods on board, or without the proper papers. He must use every effort to convey the cargo in safety. Where he cannot proceed in his own ship, he must forthwith adopt such means as may be best suited to preserve the safety and value of all the property committed to his charge. "Transshipment," "for the place of destination, if it be practicable, is the first object, because that is in furtherance of the original purpose; if that be impracticable, return or a safe deposit may be expedient. The merchant should be consulted if possible. A sale is the last thing the master should think of, because it can be only justified by that necessity which supersedes all human laws. If he sell without necessity, his owners, as well as himself, will be answerable to the merchant; and they will be equally answerable if he place the goods at the disposal of a Vice-Admiralty Court in a British colony, and they are sold under an order of the court, such court having no authority to order a sale. And the persons who buy under such circumstances will not acquire a title as against the merchant, but must answer to him for the value of the goods." (*Abbot*, 243, 244.) On his arrival the master must report his ship and crew, exhibit his manifest, and deliver the cargo to the consignee [BILL OF LADING] on payment of charges. [FREIGHT.]

The obligation on the part of the freighter or merchant, is to furnish a sufficient cargo—if he have covenanted for a full one, he must provide it though it exceed what was specified as the burthen of the ship, becoming liable in compensation for any portion not occupied. This compensation for the freight of cargo stipulated for, but not supplied, is called *dead freight*. Certain days are generally specified, during which the merchant is entitled to delay the vessel in loading and unloading; these are termed "Lay-days." A specific sum is in some cases covenanted to be paid, should the vessel be longer detained, and if a rate is not agreed upon, a charge may be made of the nature of damages. [DEMURRAGE.] Before receiving delivery of the cargo, the merchant must pay the freight. (*Abbot*, 162-425. *Smith's Mercantile L.*, 239-261.)

AGAL-AGAL, a glutinous substance obtained from a seaweed in the Philippine Islands. It is much used in China for gumming silks and paper.

AGARIC (*Boletus*), a fungus growing on trees. Two species of *boletus* are known under the same name. The *B. pini laricis*, or male agaric of druggists, was at one time employed as a purgative, but it is now in disuse. The *B. ignarius*, called female agaric, was formerly valued as a styptic, but is at present chiefly used for preparing the tinder or touchwood called on the continent *amadou*, and in this country *German tinder*. It is found in most countries, and particularly in the Highlands of Scotland, on the trunks of old ash and other trees. That which grows upon the oak, however, is most esteemed.

AGATE (Ger. *Achat*), popularly called Scotch pebble, is a well-known stone used in jewellery and in the arts. It is one of the modifications of form under which silica is found in almost a state of purity. The siliceous particles are not arranged so as to produce the transparency of rock crystal, but a translucent, sometimes almost opaque substance, with a resinous or waxy fracture; and a variety of shades of colour are produced by a minute quantity of iron, for the beauty of which, together with the high polish they are capable of receiving, agates are highly prized as ornaments. Agates are usually met with in that variety of the trap rocks called amygdaloid or mandelstein; they are also found as loose pebbles in the beds of rivers or in gravel, but in these cases they have been derived from the disintegration of amygdaloids. They vary in size from that of a pin head to a foot in diameter, but those of one, two, or three inches are the most common. They are found in the river Achates, now the Drillo, in Sicily, whence it is said they derive their name; but the principal supply is procured from Oberstein, in Germany. They also occur in many parts of Scotland, especially in the Isle of Skye, and at Kinnoull near Perth. The stones known by the names of Carnelian, Calcedony, Onyx, Sardonyx, Mocha-stone, Blood-stone, Chrysoprase, and Plasma, are closely allied to Agate, and in chemical composition they are not distinguishable, except in the case of the Chrysoprase, by its colouring matter.

AGENT. [PRINCIPAL AND AGENT.]

AGIO, a term applied in some parts of the continent to the premium or percentage allowed on a better sort of money when it is given in exchange for an in-

ferior kind. Thus, at Hamburg, when 100 marks banco are exchangeable for 120 marks currency, the agio on banco is said to be 20 per cent.; it being always reckoned upon the more valuable money. In France, again, where payments can be demanded only in silver coin, a small premium is sometimes paid by the receiver in order to obtain gold coin; this premium is called the agio on gold.

When the per centage, or difference, is considered, with regard to the inferior sort of money, it is called *discount*. Thus, when 100 dollars in bank-notes are exchangeable for only 90 dollars in coin, the discount on the paper is said to be 10 per cent.

AHM, AAM, or OHM, a German wine measure, varying in different places. In Dantzic, it contains 33; in Hamburg, $31\frac{1}{4}$; in Hanover, $34\frac{1}{4}$; and in Rotterdam, $33\frac{1}{4}$ imp. galls. nearly.

ALABASTER (It. *Alabastro*, Fr. *Albâtre*), a species of gypsum resembling marble, but softer, takes a duller polish, and when pure is much whiter and semi-transparent. Some stones, however, of a veined and coloured appearance, and also certain transparent and yellow ones of a sparry nature, are termed alabasters. It is used for small statues, lamps, vases, and other ornaments. The finest is found near Volterra, in Tuscany. It is also procured in Staffordshire, Derbyshire, and in great abundance on the shores of the Bristol Channel, between Watchet and Minehead, where it is manufactured into toys and ornaments.

ALBATA, *British Plate* or *German Silver*, a compound of tin, copper, and nickel, now extensively used in this country in the manufacture of a variety of articles which were formerly plated or made entirely of silver. Albata goods do not look so well as those plated, when the latter are entirely new, but they possess superior durability. Birmingham and Sheffield are the principal seats of this manufacture.

ALCOHOL (Fr. *Esprit de Vin*. Ger. *Weingeist*. It. *Spirito di vino*), is a liquid which forms the intoxicating principle of fermented liquors. It is by the distillation of such liquors that ardent spirits are obtained, and they receive the names of brandy, rum, gin, or whisky, according to the nature of the substance employed, but in every case consist almost entirely of three ingredients, viz. alcohol, water, and a little oil or resin, to which they owe their flavour and colour. When these liquids are redistilled, the first portion that comes over is a fine light, transparent fluid, known in commerce by the name of *rectified spirits*. When as highly rectified as possible, the specific gravity of the liquid obtained does not appear to be less than .820, and is generally more. Alcohol cannot, by this process, be deprived of the whole of the water with which it is combined; but by redistillation with hot muriate of lime, it is procured of the specific gravity .791 at 68°, or .796 at 60° Fahrenheit. In this state it is the strongest that can at present be produced, and it is therefore called *pure* or *absolute alcohol*. The alcohol of commerce or *spirit of wine*, is never so strong as this; its specific gravity is seldom under .837. In this state it is fragrant, limpid, colourless, volatile, inflammable, and of a pungent agreeable taste. It has never been frozen. At 173½° it boils. It combines with water in every degree; and the proportion of it present in common spirits is best judged of by their specific gravity, and is usually ascertained by "*Sikes' Hydrometer*." The specific gravity of what is called pure alcohol being .796 at 60° Fahrenheit, and that of water 1.000, it follows, that the lighter a spirit is the stronger is it. What in this country is called *proof spirits*, was understood to be a mixture of equal bulks of alcohol and water; but this is not the case: it contains 52-100 parts of its weight of water. When spirits are weaker than this, they are said to be *under proof*; when stronger, to be *above proof*: thus, "10 under proof" signifies that every 100 gallons of that spirit would require to have 10 gallons of water abstracted from it to bring it up to proof; and "10 over proof," that every 100 gallons contains too little water by 10 gallons. Philosophers, however, are not yet agreed upon absolute alcohol; and hitherto the term proof-spirit has been often indefinitely employed.

The great importance of accuracy in determining the strength of alcoholic mixtures induced the Lords of the Treasury, a few years ago, to request the Royal Society to give an opinion upon the subject. In the report of the committee of this body (drawn up by Mr Faraday), it is stated, that "a definite mixture of alcohol and water is as invariable in its value as absolute alcohol can be. It is also invariable in its nature." It is therefore proposed, "that *standard spirit* be that which, consisting of alcohol and water alone, shall have a specific gravity of 0.92 at the temperature of 62° Fahrenheit, water being unity at the same temperature; or in other words, that it shall at 62° weigh $\frac{92}{100}$ ths, or $\frac{23}{25}$ ths of an equal bulk of water at the same temperature." "This standard is rather weaker than the old proof spirit (the specific gravity of which, at 62° is 0.918633), in the proportion of nearly 1.1 gallon of the present proof-spirit per cent." In regard to the specific gravity of any mixture of alcohol and water, "your committee are of opinion that the hydrometer

is the instrument best fitted, in the hands of the excise officer, to indicate that specific gravity, and they think it ought to be so graduated as to give the indication of strength, not upon an arbitrary scale, but in terms of specific gravity, at a fixed temperature, which in the present case should be 62°, or that of the standard spirit."

Alcohol is extensively used in the arts. It dissolves the resins, camphor, and the essential oils; and hence its use in varnish-making, in pharmacy, and in perfumery; while its fluidity at the lowest temperatures,—its antiseptic properties, and its purity and ready inflammability, render it applicable to a great variety of other purposes. (*Brand's Chemistry. Ure's Dictionary of Arts, art. Alcohol.*) [SPIRITS.]

ALDER (*Alnus glutinosa*), an aquatic tree, found in all parts of Europe, the north of Africa, and in Asia and North America. Its timber is reddish yellow in colour, and being soft works easily. It is much used for piles, pumps, and other underground purposes where it is kept constantly wet; and its stems, hollowed out, are among the best materials, next to metal, for waterpipes. The veiny knots are often cut into veneer. The bark is valuable for tanning; and the young shoots, when mixed with other ingredients, are used for dyeing. The alder rots when exposed to the weather, and when dry is subject to worms.

ALE. [BEER.]

ALEXANDRIA. [EGYPT.]

ALGIERS extends about 500 miles along the northern shore of Africa, from about 8° 30' east, to 1° 30' west. It is bounded on that side by the Mediterranean, on the east by Tunis, south by the Sahara or Great Desert, and west by Morocco, from which it is separated by the desert of Angad. There are four provinces, Algiers Proper, Constantina, Titteri, and Mascara; the first was under the direct government of the Dey; the others under local rulers called Beys. In 1830, the principal part of the country was conquered by the French, by whom it is still retained. Population, about 2,000,000, one half being Kabyles or Berbers, and the rest chiefly Arabs, Moors, Cooloolis, Jews, and Soudan negroes.

The country is traversed by branches of the great mountain-chain of Atlas, and in general is well watered and highly fertile. In the high grounds of the interior, the same plants can be reared as are cultivated on the opposite shores of the Mediterranean; while there is reason to believe that all the productions of more southern, and even of tropical climates, might on the low grounds near the coast be cultivated with advantage. The grain sown is wheat, barley, maize, millet, doura and rice. The mountains are rich in metals and timber; and in the eastern parts, towards Oran and Mostagan, there is great abundance of fossil salt. The manufactures are inconsiderable. On the coast, near Bona, there are extensive coral banks, the seat of an important fishery, carried on chiefly by Italian vessels.

Algiers, 36° 48' N., 3° 4' E., the principal city and port, rises in the form of an amphitheatre near the middle of the coast. It is defended on the seaside by very strong batteries. The harbour, a work of immense labour, is formed by two projecting moles; and is about 15 feet deep; but it is unsafe, and vessels lying along it must be strongly fastened by cables. Formerly the population was about 70,000, including a number of Jews; but the expulsion of the Turks, and the emigration of the Moors, have since greatly reduced this number. Exports,—oil, wax, hides, skins, corn, fruit, wool, rugs, embroidered handkerchiefs, ostrich feathers. Imports,—cotton goods, silks, spices, metals, hardware, earthenware, and other manufactured goods.

The principal intercourse of Algiers is with France, Britain, Italy, and Spain. The extent of the British intercourse cannot be precisely ascertained, as the public accounts do not distinguish the trade of the different Barbary States, while large quantities of British manufactures, particularly cottons, are imported by way of Leghorn and Gibraltar. In 1832, the value of cottons imported into the town of Algiers, was from France, £7363; and of British cottons from Leghorn, £28,558; Gibraltar, £17,900; Tunis, £307; total, £46,765; in all, £54,128. In 1837 the amount of imports into Algiers from France (exclusive of £83,507 of specie) was £703,787; of which French merchandise, £472,020; foreign merchandise, £231,767; in the same year the amount of exports to France was only £58,012 exclusive of £9331 of specie.

The other chief ports possessed by the French are *Oran*, *Bona*, and *Mostagan*. The principal inland town is *Constantina*, pop. 30,000.

The *Measures, Weights, and Monies* are chiefly those of France. The Algerine pataca, or piastre of 24 tomms, is valued at 1 franc 86 cents, or 1s. 6d. sterling. The Turkish pic used in measuring cloth = 24½ inches; the Moorish pic, used for cotton and linen, = 18½ inches. The cassise of 16 tarries = 8½ imperial bushels. The metalli of oil weighs 37 lbs. 6 oz. avoirdupois. The metical = 73 grains troy; and 100 rottoli = 119 lbs. avoirdupois.

The conquest of Algiers has relieved the Mediterranean from the dread of piracy; though it will be long before any other advantage can be derived from this achievement by France. The climate is indeed good, and the soil rich; but the inhabitants of the adjacent country are regardless of treaties, strangers to the enjoyments of social life, addicted to plunder, and accustomed to consider war as their profession. For some years rumours prevailed that Louis Philippe was determined to relieve his exchequer of the burden entailed by this colony; but as some of the most formidable obstacles to success have been removed, no doubt is now entertained that he will persevere in the undertaking. (*Russell's Barbary States, Edin. Cub. Lib. No. XVII.*)

ALICANT. [SPAIN.]

ALIEN, in its original acceptation, is applied to any one born out of the dominions of Great Britain. The disqualifications of aliens do not, however, apply to all individuals so situated. By 7 Anne, c. 5, the children of all natural born subjects, though they happen to be born beyond the liegance of the crown, are deemed to

be natural born subjects ; and in explanation, it is enacted by 4 Geo. II. c. 21, § 2, that this privilege does not include the children of persons who, at the time of the birth, were attainted, or liable to the penalties of treason. By 13 Geo. III. c. 21, § 1, the benefit is extended to grandchildren of natural born subjects, *i. e.* to the children of persons declared to be naturalized by these statutes. Aliens cannot hold real property in the United Kingdom, but an alien may trade and acquire property in goods, money, and other personal estate. "Also," says Sir William Blackstone, "an alien may bring an action concerning personal property, and may make a will, and dispose of his personal estate : not as in France, where the king, at the death of an alien, is entitled to all he is worth by the *droit d'aubaine* or *jus albinatus*, unless he has a peculiar exemption" (I. 372). This hard law is now repealed in France, to the extent of allowing the representative of a foreigner to succeed to his property, in so far as Frenchmen hold the same privilege in the foreigner's native country (*Code Civil*, Liv. iii. Tit. i. ch. 2, art. 726). Alien enemies can hold no property in the United Kingdom, and cannot pursue actions. "The children of aliens," says Blackstone, "born here in England, are, generally speaking, natural born subjects, and entitled to all the privileges of such, in which the constitution of France differs from ours ; for there, by their *jus albinatus*, if a child be born of foreign parents, it is an alien" (I. 374). By the later law of France, however, children of foreign parents may become naturalized by claiming the privilege in the course of a year following the attainment of majority, and declaring their determination to reside permanently in France (*Code Civil*, Liv. i. Tit. i. ch. 1, art. 9). The crown may grant to aliens letters of denization. A denizen may "take lands by purchase or devise, which an alien may not, but cannot take by inheritance : for his parent, through whom he must claim, being an alien, had no heritable blood ; and, therefore, could convey none to the son. And upon a like defect of hereditary blood, the issue of a denizen, born *before* denization, cannot inherit to him ; but his issue born *after* may" (*Blackstone*, i. 374). The rule in Scotland appears to be analogous. (*Erskine's Inst.* iii. 10, § 10.) The full right of citizenship can only be conferred by Act of Parliament. In bills of naturalization, it is usual to insert a clause disabling the party from being a Member of the legislature or of the Privy Council. By 13 Geo. II. c. 3, every foreign seaman who, in time of war, serves two years on board an English ship, by virtue of the King's Proclamation, is naturalized ; and by statutes 13 Geo. II. c. 7 ; 20 Geo. II. c. 44 ; 22 Geo. II. c. 45 ; 2 Geo. III. c. 25, and 13 Geo. III. c. 25, all foreign Protestants, upon their residing seven years in any of the American colonies, without being absent two months at a time, and all such persons serving two years in a military capacity there, or being three years employed in the whale-fishery, without afterwards being more than one year absent from the king's dominions ; and by 26 Geo. III. c. 50, §§ 24, 27, 28 ; and 28 Geo. III. c. 20, § 15, all foreigners who have established themselves and families in Britain, and carried on the southern whale-fishery, are naturalized as if by act of naturalization. In Ireland, the Parliament passed a temporary act (14 and 15 Cha. II. c. 13) for naturalizing all aliens of the Protestant religion intending to reside permanently with their families and property. This act was continued by 4 Wm. & Mary, c. 2, and rendered perpetual by 4 Geo. I. c. 9.

By 6 & 7 Wm. IV. c. 11, all aliens, on their arrival from abroad, must declare their name and country to the chief officer of customs at the port of landing, and show him their passport, with a view to their being registered, under penalty of £2 ; and shipmasters must report all aliens brought over seas in their vessels, under a penalty of £20, and £10 additional for each alien on board.

ALKALIS, a class of chemical bodies characterized generally by their peculiar hot, bitter, and caustic taste ; by their changing the colours of vegetable blues to green, and yellows to brown ; and by their neutralizing acids, and forming with them the class of compounds called salts. The principal alkalis are ammonia, potash, and soda : an account of which, and such others as possess commercial interest, will be given under their proper heads. The value of any alkali is determined by an *alkalimeter*, a graduated instrument which shows the quantity of acid neutralized by a given weight of the sample, and hence the amount of pure alkali contained in it. The alkalimeter at present used, is minutely described in Mr Faraday's *Chemical Manipulation*.

ALKANET (Fr. *Orcanette*. Ger. *Orkanex-wurzel*. It. *Arganetta*. Sp. *Ar-caneta*), the root of a species of bugloss (*Anchusa tinctoria*), a native of the warmer parts of Europe. It is of a dark red colour, and white within ; and imparts an elegant tint to alcohol, wax, and to all unctuous substances.

The colouring matter is confined to the bark, and the small roots are preferred, as these have most bark in proportion to their bulk. Alkanet is produced in England; but the best is imported from near Montpellier in France, and from the Levant.

ALLIGATION, in commercial arithmetic, is a formula for ascertaining the proportion of constituents or ingredients in a mixture.

I. To find what quantity of any number of ingredients, whose rates are given, will compose a mixture of a given rate. *Rule*—1. Write down the rates of the ingredients under each other. 2. Connect by a curved line, the rate of each ingredient, which is less than that of the mixture, with one or any number of those that are greater, and each greater rate with one or any number of those that are less. 3. Put the difference between the mixture rate, and that of each of the ingredients, opposite the contrary rate with which it is linked. 4. Then if only one difference stand against any rate, it will be the quantity belonging to that rate; but if there be several, their sum will be the quantity.

Example 1. Wine at 9s. per gallon is to be mixed with wine at 6s. per gallon; required the proportions so as to sell the mixture at 7s. per gallon.

7 { 9 } : : : 1 at 9s. per gallon
 7 { 6 } : : : 2 at 6s.

That is, the wine at 9s. per gall. must be to that at 6s., in the proportion of 1 to 2.

Example 2. What quantity of spirits at 17s. 18s. and 22s. per gallon, must be taken, so as that the mixture may be worth 20s. the gallon.

20 { 17 } : : 2 at 17s. per gallon.
 20 { 22 } : : 3 + 2 = 5 at 22s.
 20 { 18 } : : 2 at 18s.

Ans. 2 gallons at 17s.; 5 at 22s.; and 2 at 18s.

II. When the whole composition is limited to a certain quantity. *Rule*.—Find an answer as before, by linking; then say as the sum of the quantities, or differences thus determined, is to the given quantity, so is each ingredient found by linking, to the required quantity of each.

III. When one of the ingredients is limited to a certain quantity. *Rule*.—Take the difference between each price and the mean rate as before; then, as the difference of that ingredient whose quantity is given is to the rest of the differences respectively, so is the quantity given to the several quantities required.

In the same manner, questions of this kind may be worked when several of the ingredients are limited to certain quantities, by finding first for one limit, and then for another. In general, however, cases in alligation are best resolved by an analytical process, as they form what are called *indeterminate* or *unlimited* problems, from their admitting of a variety of answers. [AVERAGE.]

ALLOWANCES. [TARE.]

ALLOY, in coinage, a certain proportion of harder metal, mixed with pure gold and silver, in order to render them less flexible, and better adapted for general use.

ALLSPICE. [PIMENTO.]

ALMONDS (Du. *Amandelen*. Fr. *Amandes*. Ger. *Mandeln*. It. *Mandole*. Por. *Amendoas*. Sp. *Almendias*), the kernel of the fruit of the almond tree (*Amygdalis communis*), a native of Syria and Barbary, but now naturalized in the south of Europe. Almonds are of an oblong compressed shape, nutty taste, and are covered with a thick brown skin. There are two permanently distinct varieties,—the *sweet* and the *bitter*; but many subvarieties are distinguished in the places of growth. It is said that the eye can discover no difference between the sweet and bitter almonds, nor between the trees which produce them; and it is asserted (though without probability) that the same tree, by culture, has been made to bear both. Almonds are now little used in medicine; the sweet, are a common article of the dessert; the bitter, are used chiefly in cooking to give a flavour to other articles. Both become rancid by keeping. They are gathered in August and September, but are not generally shipped till the middle of October. They are imported into this country chiefly from Barbary, especially Mogadore, and from Valencia, Alicante, and Malaga, in Spain; small quantities are, besides, brought from France, Portugal, and Italy. Bitter almonds are obtained almost wholly from Barbary. The best sweet are the *Jordan* variety, brought from Malaga; they are longer, flatter, less pointed at one end, and less round at the other, and have a paler cuticle than the other kinds.

Prior to 1832, when the duty was reduced, the consumption of almonds was only about 3000 cwts. annually; but it is now 8000 cwts. In 1836, there were imported 17,370 cwts.; re-exported, 8814 cwts.; and entered for consumption, 8061 cwts., yielding of customs' revenue, £8101. The prices in bond, per cwt., quoted in the London market in July 1839, were, Jordan, £9 to £10; Valencia, £4, 10s.; Barbary, bitter, £2, 10s.

Customary Tares.—In the shell, 2-3d parts; in baskets of 1½ to 1¾ cwt., 6 lbs. each; in serons of 1½ to 2 cwt., 12 lbs. each.

ALMOND OIL, a fat or greasy substance expressed from sweet and bitter almonds. Sp. gr. .915. It is pale yellow, but becomes colourless when long exposed to light. It soon grows rancid, especially if in contact with oxygen. [Oil.] It is so plentiful, that 5½ lbs. of almonds have yielded 1 lb. 6 oz. of oil by cold expression, and ½ lb. more on heating them.

ALMUDE, a measure for liquids in various places. In Lisbon, it contains 3.64 imp. galls.; in Oporto, 5.61 do.; in Faro, 4.08 do.; and in Constantinople, 1.15 do.

ALOE, AMERICAN. [MAGUEY.]

ALOES (Fr. *Aloès*. Ger. It. & Sp. *Aloe*. Pers. *Sibbir*), a bitter resinous juice, extracted from the leaves of a succulent plant of the same name. It is used as a

common purgative medicine. Three kinds are known to druggists, namely,—1. *Socotrine*, from the island of Socotra, is sometimes imported in chests from the Levant; it is the purest, though seldom to be found genuine in this country: the aloes brought from the Cape Colony, and Melinda, are sometimes designated by the same name, but they are much inferior in quality. 2d, *Hepatic*, or liver-coloured aloes, is imported chiefly from Bombay in gourds; a darker kind is brought from Barbadoes. 3d, *Caballine*, known by its rank smell, is used only for horses. These varieties of aloes are said to differ only in purity, and it is probable that they may be obtained, in some instances, from different species of the same plant. Socotrine aloes is said to be obtained by only draining the leaves, after being cut at their base: Hepatic or Barbadoes aloes, by boiling or slight pressure; and horse aloes seem to be a coarse preparation from the dregs of the last. Those of best quality are glossy, not very black, but brown; when rubbed or cut, of a yellow colour; compact, but easy to break; easily soluble; of an unpleasant peculiar smell, and an extremely bitter taste.

ALOE-WOOD (Fr. *Bois d'Aloès*. Ger. *Aloe-holz*. Lat. *Lignum Aloes*), called also *Xylo-Aloes* or *Calumbac*, is procured from the interior part of the trunk of a large tree (*Aquilaria Aghallocha* of Roxburgh), growing in some parts of Assam, Cochin, and China. It is of a dark colour, and is saturated with a peculiar aromatic resinous matter, which is highly esteemed by eastern nations. This substance is said to be the produce of disease, as the sound wood is white and inodorous. It is used as a stimulating medicine, as well as an ingredient in incense. (*Ainslie's Materia Indica*.)

ALQUEIRE, a corn measure in Portugal and Brazil. 100 alqueires of Lisbon = 37½ imp. bushels; and 100 alqueires of Maranham = 124½ imp. bushels.

ALUM (Arab. *Shebb*. Du. *Aluin*. Fr. *Alun*. Ger. *Alaun*. It. *Allume*. Por. *Pedrahüme*. Rus. *Kwassü*. Sp. *Alumbre*), an earthy salt extensively used in the arts. It is found native only in small quantities; but it has long been produced artificially. The basis of common alum is sulphate of alumina, combined with sulphate of potash. It is brittle, colourless, inodorous, has a sweetish astringent taste, and crystallizes generally in transparent octahedrons. Sp. gr. 1.73. Water at 60° Fahren. dissolves about 1-15th, and at 212°, about 3-4ths of its weight of alum. Its contamination with iron may be detected by nut-gall, or prussiate of potash; the last will give solution of alum a blue tint if it contain iron. The most extensive alum-works in Britain are at Hurlett and Campsie, near Glasgow, where it is prepared from slaty-clay, obtained from the shales of old coal-pits. It is also prepared extensively at Whitby, from a stratum of alum slate, said to extend 29 miles. But the British alum is inferior to the *Roch alum* imported from Smyrna, and also to the *Roman alum*, manufactured at La Tolfa, near Rome. This last is the purest of all, and is generally distinguished by being mixed with a little reddish powdery matter. Alum is also extensively produced in China, from whence it is exported to India. This salt is much used in dyeing and calico-printing, in consequence of the attraction of its base for colouring matter. It is also used in lake colours, leather dressing, pasting paper, clarifying liquors, by candlemakers to harden and whiten the tallow, &c. In medicine, it is employed as an astringent.

The price of British alum was lately quoted at 11s. per cwt., and Roch, at 24s. to 26s. per cwt. Customary Tare, in casks, 10 to 12 per cent.

AMADOU. [AGARIC.]

AMALGAM, a name applied to the combinations of mercury with other metals.

AMAZON-STONE, a crystallized variety of felspar, of a beautiful apple-green colour. Localities, Ural Mountains and South America.

AMBER (Fr. *Succin*. Ger. *Bernstein*. It. *Ambra gialla*. Lat. *Succinum electrum*. Rus. *Jantar*. Sp. *Ambar*), a solid, brittle, carbonaceous substance, found in beds of lignite, in various countries, more particularly on the Adriatic and Sicilian shores, and in Prussia, near the seacoast, between Memel and Dantzic, where there are regular mines of it. It is discovered generally in nodules, or small pieces of a white, yellow, or brown colour, and very commonly translucent. When bruised, it exhales a slight aromatic odour. It is susceptible of a good polish, and when rubbed it becomes electrical. Sp. gr. 1.07. It is sometimes adulterated with copal or other resins, which are detected by their different appearance, and by not exhaling the proper odour when burned. The origin of amber is uncertain; Mr Phillips states that it is commonly considered to be a fossil resin. It is imported into this country chiefly from the Baltic, and is used in varnishes, as well as for ornamental purposes in the manufacture of necklaces, &c. In oriental commerce, it is carried into India from Japan, Madagascar, and the Philippines. (*Ainslie's Materia Indica*).

AMBERGRIS (Fr. *Ambergris*. Ger. *Ambra*. It. *Ambracani*. Lat. *Ambra grisea*. Sp. & Por. *Ambargris*), a substance found principally in warm climates, floating on the sea, or thrown on the shore ; it is said to be a morbid product of the spermaceti-whale. It is generally procured in small fragments, but sometimes in masses weighing upwards of 100 lbs. When good, it is solid, opaque, of a bright gray colour, which is darkest externally, and intermixed with yellow or reddish streaks. It has a fragrant and peculiar odour when heated or rubbed. Sp. gr. about .914. The best comes from Madagascar, Surinam, and Java. It is used as a perfume. It usually sells in London, at from 5s. to 11s. per oz. This high price leads to frequent adulteration of the commodity.

AMBOYNA. [EAST INDIAN ISLANDS.]

AMBOYNA, or LINGOA WOOD, a fancy wood of various colours, and having the shades generally small. It is much used in cabinet-work, and is imported from Ceram and Amboyna, in logs of about 2 feet wide.

AMETHYST (Fr. *Amethyste*. Ger. *Amethyst*. It. *Amatista*. Por. & Sp. *Ametisto*), a precious stone of a purplish violet colour, and great brilliancy. It is of two kinds, the *oriental* and *common*. Of these, the oriental, which is a species of sapphire, is by far the most valuable. The common or occidental amethyst is merely a coloured variety of quartz, or rock crystal, and is in beauty, lustre, and hardness, much inferior to the oriental amethyst. It occurs crystallized, in rounded pieces, and in massive portions ; but its primary form, like that of quartz, is a slightly obtuse rhomboid. It is most valuable when large, high coloured, and without flaws. It is found in India, Germany, Sweden, and Spain, but is imported into this country chiefly from Brazil. [SAPPHIRE.]

AMIANTHUS. [ASBESTUS.]

AMMONIA, *volatile alkali*, or *spirits of hartshorn*, a pungent volatile substance, of great importance and extensive use, which is formed during the putrefactive fermentation of animal matter. When pure, it is a gaseous body, composed of three equivalents of hydrogen and one of azote ; sp. gr. .590 ; but in medicine and the arts, it is generally used either in solution in water, or in combination with other substances.

LIQUID AMMONIA, or HARTSHORN, is an aqueous solution of ammonia, prepared either by passing the gas as it is formed directly into water, or by distillation from sal-ammoniac, burnt bone, and water. In the former case, the sp. gr. is .880, in the latter .954. It is limpid, colourless, very volatile, has a pungent smell, and a caustic taste ; and is one of the most useful stimulants in the *materia medica*.

ACETATE OF AMMONIA, or SPIRIT OF MINDERERUS, is prepared by adding Sesqui-carbonate of ammonia, to dilute acetic acid. It has a sweetish bitter taste ; and is employed externally as a refrigerant, and internally as a diaphoretic.

CARBONATES OF AMMONIA.—The *Carbonate of Ammonia* may be obtained by uniting one volume of carbonic acid gas with two volumes of ammoniacal gas. It is a dry, white, volatile powder, and is used as a stimulant in a preparation called *Spirit of Sal Volatile*. The *Sesqui-carbonate of Ammonia* is obtained by sublimation from a mixture of muriate or sulphate of ammonia and chalk, and usually occurs in cakes, broken out of the subliming vessel. When fresh, it is of a crystalline texture, semi-transparent, and hard, odour pungent, and taste penetrating. It is extensively used in chemical preparations. In medicine, it is employed as a stimulant, and is usually called *smelling-salts*. It is also used instead of yeast, in making some kinds of bread.

MURIATE OF AMMONIA, or SAL-AMMONIAC (Fr. *Sel Ammoniac*. Ger. *Salmiak*. It. *Sale Ammoniac*. Rus. *Naschatur*), was originally procured from Egypt, where it was made from the soot of camel's dung. It is now, however, prepared in abundance in this country, by decomposition of the ammoniacal fluid given off during the preparation of coal-gas ; also, by a complicated process, from bones and other refuse of animal substances containing its ingredients. It is likewise found native at Etna and Vesuvius, in some of the Tuscan Lakes, and in Persia, Bucharra, &c. As generally obtained, it is in large cakes of a semi-circular form, translucent and colourless, with a sharp saline taste, but no smell. Sal-ammoniac is extensively employed in the arts. It is used in preparing aqua regia,—in soldering some of the metals,—in tinning iron and copper,—in the preparing of dyes ; also in various chemical manufactures. It is exported in considerable quantities to Russia and other parts of the Continent, and to the United States.

AMMONIACUM (Arab. *Feshook*. Fr. *Gomme Ammoniaque*. Ger. *Ammoniack*), a gum resin, procured, according to some authorities, from the *Heracleum gummi-ferum*, but by others referred to the *Ferula Orientalis*. It has rather a heavy smell,

and a bitter sweet taste. It is in agglutinated masses of *tears*, or in separate dry drops, of a yellowish white colour. Sp. gr. 1.207. That which is decidedly gutti-form, of a clear and deep buff colour externally, paler within, and free from impurities, is most esteemed. It is produced in Persia, Abyssinia, and other places, but is imported into the United Kingdom from India. It is used in medicine as a stimulant; and in the arts, to form the *diamond cement* employed to join pieces of broken glass or porcelain.

AMPHORA. [ANFORA.]

AMSTERDAM. [HOLLAND.]

ANCHOR (Fr. *Ancre*. Ger. *Anker*. It. *Ancora*. Sp. *Ancla*), a heavy hooked iron instrument for fixing a vessel in a harbour or road. Large ships carry four principal anchors, the *sheet*, *best bower*, *small bower*, and *spare anchors*; and two small ones besides, for particular purposes, namely, the *stream* and *kedge*. The form of this well-known instrument remained almost unchanged from a very early period, until of late years, when more complex methods of fabrication have been partially introduced. (*Lardner's Cyclopædia. Manufactures in Metal*, v. i. p. 93.) Anchors are extensively manufactured in the United Kingdom; and nearly 2500 tons are annually exported to all parts of the world.

ANCHORAGE, a duty paid for the liberty of anchoring in a port. It means also a ship's anchoring ground.

ANCHOVY (Fr. *Anchois*. It. *Acciuga*), a small fish (*Engraulus encrasicholus*, Cuvier), about the size of a finger, of a blueish-brown colour on the back, and silvery white on the belly. It abounds in the Mediterranean, particularly off Gorgona, near Leghorn, where it is taken in May, June, and July. It is also found on the coasts of France and Portugal, and occasionally on the shores of England. After being caught, and the heads and entrails separated, the bodies are salted and packed in small barrels, in which, if the air be excluded, they will keep for a considerable time. Genuine anchovies are small and firm, round backed, fibre red, with skin of a silvery white. Those that are dark brown without, with flabby pale coloured flesh, and tapering much towards the tail, are commonly *Sardines*, an inferior species, frequently substituted for, or mixed with, the true kind. They are used as a condiment. About 140,000 lbs. are annually imported.

Customary Tare, in barrels of 16 lbs., 6 lbs. each.

ANFORA, or AMPHORA, a Venetian liquid measure = 114 imp. galls. nearly.

The ancient Roman amphora of 2 urnæ, contained about 6.39 imp. galls.; and the ancient Greek amphora or *amphoreus* of 6 choli, was equal to 3.61 imp. galls. nearly. (*Paucton's Metrologie*.)

ANGEL, an ancient English gold coin, first issued in 1465, by Edward IV., when it was valued at 6s. 8d. In the latter part of Henry VIII.'s reign, its value was raised to 8s.; and in the reign of Mary to 10s.; at which rate it was valued until the close of Charles I.'s reign; after which it was no longer coined.

The *angelot* or half angel of 3s. 4d., was anciently a very common coin; so much so, that forty pence became a proverbial expression for a small wager (*Shakspeare's Henry VIII.*); and it still remains the legal and established fee in many offices.

ANGELICA (Fr. *Angelique*), a large umbelliferous plant common in Britain, all whose parts have a fragrant aromatic smell, and a pleasant bitter taste. The *A. Archangelica*, a biennial, is generally cultivated in gardens for the use of confectioners, by whom a sweetmeat is made of the stalks. The roots are used in medicine, for which purpose, however, those from Spain and Bohemia are preferred. The common wild kind (*A. sylvestris*, a perennial) possesses properties similar to the other, but is much weaker. (*Duncan's Dispensatory*.)

Customary Tare in casks, 15 per cent.

ANGOLA extends from about lat. 1° to 12° S. along the W. coast of Africa; and comprehends the districts of Angola Proper, Loango, Congo, and Benguela. The whole is claimed by the Portuguese, but their settlements are chiefly confined to the coast. The residence of the governor is at St Paul de Loando; pop. 8000.

This coast is very imperfectly known, as foreign intercourse is prohibited by the Portuguese. It appears to be certain, however, that the principal, or rather the sole object for which it is resorted to, is the trade in slaves, of whom, from 18,000 to 20,000 are said, by Mr Martin, to be annually exported, chiefly to Brazil. For the protection of this infamous traffic, a considerable military force is maintained on the coast, composed mostly of convicts.

ANGOSTURA, or CUSPARIA BARK, in the *materia medica*, is a valuable tonic, obtained from the stem and branches of a species of *Galipea*,—the former being in flat, and the latter in quilled pieces. It breaks with a short and resinous fracture, is covered with an ash-coloured epidermis, is internally smooth, and of a dull brownish-yellow colour. Its odour is rather nauseous and fishy, and it has a strong bitter flavour, accompanied by a peculiar and somewhat aromatic pungency.

It is found in the warmer parts of South America, especially in the neighbourhood of Angostura in Colombia.

A spurious and poisonous bark is sometimes met with under the name of angostura. "This is more intensely bitter, and in shorter and less regular pieces than the genuine; internally, it is nearly black, and externally, covered with a rough rust-coloured epidermis." (*Brande's Pharmacy.*)

ANIMI, improperly called gum animi, is a resin which exudes from a large tree (*Hymenaea*) growing in South America. It is of a pale brownish-yellow colour, and is met with partly in transparent and somewhat unctuous grains or *tears*, and partly in larger brittle masses. It often contains a great many insects. Sp. gr. about 1.055. In commerce it is distinguished as "washed" and "scraped,"—the latter being the most valued. This resin is extensively used by varnish-makers.

ANISEED is the product of an annual umbelliferous plant, a native of Egypt, but cultivated in various parts of Europe. It has an aromatic smell, and a warm sweetish taste. The small compact seed imported from Spain, is usually preferred to the lighter and larger kind, which is the growth of this country. It is an article of the *materia medica*.

Oil of Aniseed is a volatile fluid, obtained from the seeds by distillation; it concretes at about 50°, which is its leading character. It is in general imported for pharmaceutical use, from Spain; and is consumed chiefly in the preparation of horse medicines.

ANKER, a liquid measure in various places. The English anker contains 10 wine gallons, or 8½ imp. galls. The Scottish anker of 20 Scottish pints, equal about 7½ imp. galls. In Copenhagen, the anker contains about 8½ imp. galls.; in Prussia, 7½; in Amsterdam, Riga, and Pernau, 8½; in Revel, 9½; and in Rostock, nearly 8 imp. galls.

ANNA, an Indian money of account, equal to the 16th part of a rupee, or about 1½d. sterling; also a small weight.

ANNAM, an empire in the eastern peninsula of India; bounded N. by China, E. and S. by the Gulf of Tonquin and Chinese Sea; and W. by Siam. It was established about the beginning of the present century, and comprises the kingdoms of Cochin-China, Tonquin, Kamboja, Chiampa, Bao or Boatan, and part of Laos. Area vaguely estimated at 98,000 square miles; and population at 6,000,000. The capital, Hué, is one of the strongest fortified towns in Asia; pop. 100,000. The government is a despotic monarchy, with a sort of council composed of the officers of state: the king is nominally a vassal of China.

The two extremities of the empire, Kamboja on the S. and Tonquin on the N., consist chiefly of low alluvial tracts, little elevated above the level of the sea; while the central part, or Cochin-China, is generally mountainous, with here and there valleys of considerable extent and fertility. A material diversity of climate is found to obtain throughout the empire, resulting as well from physical aspect as from geographical situation. In the northern and southern provinces, the seasons observe the same course as in Malabar and Bengal, but in Cochin-China a high range of mountains produces the same effect as the central range of Hindostan, in reversing the order of seasons; so that a dry season prevails during the south-west, and a wet one during the north-east monsoon,—the rains continuing from October till March. The climate is in general salubrious. The metallic productions are inconsiderable, except in Tonquin, which abounds both in the useful and precious metals. The mines are worked entirely by Chinese, and furnish employment, according to Mr Crawford, to about 25,000. The yearly produce of the silver mines is stated at about 213,600 ounces. The vegetable species differ little from those in similar latitudes in other parts of India. Tea and silk are produced in the northern provinces; but, like all other productions of the country demanding the exercise of skill and intelligence, greatly inferior to those of China. Certain descriptions of cinnamon, cardamums, eagle-wood, and other trifling articles, are subject to the monopoly of the government. The domestic traffic of the country is chiefly carried on by the great rivers of Kamboja and Tonquin, or by the seacoast.

The foreign trade is greatly inferior to that of Siam. It is carried on chiefly with that country, China, and the British ports within the Straits of Malacca. The intercourse with China is partly by sea, and partly by land with the provinces adjoining Tonquin; the exports consist principally of cardamums, areca-nut, sugar, cinnamon, salt, salt fish, rice, fancy woods, varnish, eagle-wood, ebony, cotton, stick-lac, ivory, peltry, hides and horns, deers' sinews, and ornamental feathers, with a variety of dyeing drugs and gold and silver bullion from Tonquin; the imports are teas, wrought silks, Chinese and British manufactures, and Bengal opium. The intercourse with Siam is entirely conducted in vessels belonging to the Siamese port of Bangkok. The trade with the British ports has chiefly originated since the establishment of Singapore in 1819; the exports are confined to rice, salt, sugar, raw silk, with some minor commodities; the imports are opium, catechu for the consumption of the Kambojans, iron taken to Saigon only, fire-arms, with some British woollens and white cotton goods. The direct intercourse with Europeans is inconsiderable; the greater part of the domestic, and almost the whole of the foreign commerce, is in the hands of the Chinese, who are both the merchants and mariners of the empire. The *seaports* are numerous, and in general good. The principal are Saigon, in Kamboja; Faifo and Hué, in Cochin-China; and Cachao, in Tonquin. The latter, situate in lat. 22° 36' N., and long. 105° 11' E., pop. 150,000, may be regarded as the commercial capital of the empire.

Measures and Weights.—The ordinary weights are those of China. At Hué and Faifo, however,

the plant as 113 catties; and at Saigon, a plant of sugar = 1½ plant, or 180 catties. Rice is sold by the bag of 80 catties, though commonly 2 catties short of this amount.

Money.—The common money of account is the quan of 10 taes, or 600 cashes. The only coin is the cash, which is made of zinc, and the 600 forming a quan are commonly strung upon a filament of silk, and in this manner kept for use forming a bulky and most inconvenient currency. Ingots of gold and silver, stamped by the government, though current, are not considered coin. The Spanish dollar passes in Cochin-China, and is valued at 1½ quan by the government.

Duties.—No import duties are levied, and the only article prohibited is opium, which, however, is readily sold by the Chinese. An export duty of 6 per cent. is levied on mardennine, pepper, cinnamon, ivory, rhinoceros' horns, animal skulls, musk wood, ebony, and red wood, and on timber and cordage 10 per cent. The exportation of silk, bullion, copper, agila wood, rice, and salt is contraband, but the prohibition is rather nominal than real; and the exportation of rice and salt is allowed by license. The chief port charge is a duty on the measurement of the vessel, the amount of which is lowest at the capital, and highest at Saigon,—an absurd distinction intended to counterbalance the natural disadvantages of the northern ports, and place them on an equality with the fine harbour of Saigon. (*Crawford's Siam and Cochin-China.*)

ANNATTO, or ARNOTTO (*Da. Orleana, Hatos. Fr. Rocou. Ger. Orlean. It. Orlean. Por. Orlean*), a reddish dye, is an inspissated extract from the follicles of the seeds of the *Bixa Orellana*, a native of the Malayan archipelago. It is brought to this country from Brazil and Guiana, but it is also to be found in the East and West Indies. It is used by dyers for giving more or less of an orange cast to the simple yellows,—as an ingredient in varnishes,—and for colouring cheeses. Annatto is moderately hard, of a brown colour on the outside, and a dull red within. There are two kinds. *Flag or Cake annatto*, in cakes of about two or three pounds weight each, is generally enveloped in large flag leaves. *Roll annatto*, a more concentrated extract, is brought in small rolls of a few ounces weight, and contains a larger proportion of colouring matter than the former. This is the kind used chiefly in dairies.

The consumption of annatto has much increased of late years, partly from a great abatement of the duty in 1834. In 1835, the quantity entered for home consumption was 235 007 lbs.

ANNUITY, any fixed sum of money which is payable either yearly or in given portions at stated periods of the year. Annuities are of two kinds: first those called *Certain*, payable during a fixed term of years, the value of which is founded upon the operation of compound interest; and *Annuities on Lives*, in which the operation of compound interest is combined with the chances affecting the duration of human life.

1. *Annuities Certain* for terms of years are currently sold by government, and by many of the insurance companies. Their value fluctuates with the market rate of interest; and the price of those sold by government, as well as by other parties, is generally regulated by the current rate of 3 per cent. stock;—the sum sunk in the purchase of an annuity producing a smaller, or a larger return, according as the price of stock is high or low. Thus, supposing 3 per cent. stock to be at par, or 100,—the rate of interest derived from investing money therein, being then only 3 per cent.,—a sum of £100 sunk in the purchase of an annuity from government for 20 years, would purchase only £6, 13s. 8d. per annum; but if the 3 per cent. fall to 20, they then yield a return of 3½ per cent. interest for every £100 invested in them, and the same sum will purchase an annuity for 20 years of £7, 8s. The following table shows the rates at which the government annuities may be purchased at the common prices of stock:—

ANNUITIES FOR TERMS OF YEARS which £100 (Money) will purchase, when the 3 per cent. Stock, or dividend, is at the following prices:—

Years	Rate, £3 per ct.	Rate, £3 10 per ct.	Rate, £3 15 per ct.	Rate, £3 20 per ct.	Rate, £3 25 per ct.	Rate, £3 30 per ct.	Rate, £3 35 per ct.	Rate, £3 40 per ct.	Rate, £3 45 per ct.	Rate, £3 50 per ct.	Rate, £3 55 per ct.	Rate, £3 60 per ct.	Rate, £3 65 per ct.	Rate, £3 70 per ct.	Rate, £3 75 per ct.	Rate, £3 80 per ct.	Rate, £3 85 per ct.	Rate, £3 90 per ct.	Rate, £3 95 per ct.	Rate, £4 per ct.
10	£ 4. 11. 12. 12.	£ 4. 11. 13. 10.	£ 4. 11. 16. 8.	£ 4. 11. 17. 0.	£ 4. 11. 17. 6.	£ 4. 11. 18. 2.	£ 4. 11. 18. 8.	£ 4. 11. 19. 4.	£ 4. 11. 20. 0.	£ 4. 11. 20. 6.	£ 4. 11. 21. 2.	£ 4. 11. 21. 8.	£ 4. 11. 22. 4.	£ 4. 11. 23. 0.	£ 4. 11. 23. 6.	£ 4. 11. 24. 2.	£ 4. 11. 24. 8.	£ 4. 11. 25. 4.	£ 4. 11. 26. 0.	£ 4. 11. 26. 6.
15	£ 3. 13. 0.	£ 3. 13. 6.	£ 3. 14. 0.	£ 3. 14. 6.	£ 3. 15. 0.	£ 3. 15. 6.	£ 3. 16. 0.	£ 3. 16. 6.	£ 3. 17. 0.	£ 3. 17. 6.	£ 3. 18. 0.	£ 3. 18. 6.	£ 3. 19. 0.	£ 3. 19. 6.	£ 3. 20. 0.	£ 3. 20. 6.	£ 3. 21. 0.	£ 3. 21. 6.	£ 3. 22. 0.	£ 3. 22. 6.
20	£ 3. 16. 3.	£ 3. 17. 3.	£ 3. 18. 1.	£ 3. 18. 9.	£ 3. 19. 4.	£ 3. 20. 0.	£ 3. 20. 6.	£ 3. 21. 2.	£ 3. 21. 8.	£ 3. 22. 4.	£ 3. 23. 0.	£ 3. 23. 6.	£ 3. 24. 2.	£ 3. 24. 8.	£ 3. 25. 4.	£ 3. 26. 0.	£ 3. 26. 6.	£ 3. 27. 2.	£ 3. 27. 8.	£ 3. 28. 4.
25	£ 3. 19. 0.	£ 3. 20. 0.	£ 3. 21. 0.	£ 3. 22. 0.	£ 3. 23. 0.	£ 3. 24. 0.	£ 3. 25. 0.	£ 3. 26. 0.	£ 3. 27. 0.	£ 3. 28. 0.	£ 3. 29. 0.	£ 3. 30. 0.	£ 3. 31. 0.	£ 3. 32. 0.	£ 3. 33. 0.	£ 3. 34. 0.	£ 3. 35. 0.	£ 3. 36. 0.	£ 3. 37. 0.	£ 3. 38. 0.
30	£ 3. 21. 3.	£ 3. 22. 3.	£ 3. 23. 3.	£ 3. 24. 3.	£ 3. 25. 3.	£ 3. 26. 3.	£ 3. 27. 3.	£ 3. 28. 3.	£ 3. 29. 3.	£ 3. 30. 3.	£ 3. 31. 3.	£ 3. 32. 3.	£ 3. 33. 3.	£ 3. 34. 3.	£ 3. 35. 3.	£ 3. 36. 3.	£ 3. 37. 3.	£ 3. 38. 3.	£ 3. 39. 3.	£ 3. 40. 3.
35	£ 3. 23. 6.	£ 3. 24. 6.	£ 3. 25. 6.	£ 3. 26. 6.	£ 3. 27. 6.	£ 3. 28. 6.	£ 3. 29. 6.	£ 3. 30. 6.	£ 3. 31. 6.	£ 3. 32. 6.	£ 3. 33. 6.	£ 3. 34. 6.	£ 3. 35. 6.	£ 3. 36. 6.	£ 3. 37. 6.	£ 3. 38. 6.	£ 3. 39. 6.	£ 3. 40. 6.	£ 3. 41. 6.	£ 3. 42. 6.
40	£ 3. 26. 0.	£ 3. 27. 0.	£ 3. 28. 0.	£ 3. 29. 0.	£ 3. 30. 0.	£ 3. 31. 0.	£ 3. 32. 0.	£ 3. 33. 0.	£ 3. 34. 0.	£ 3. 35. 0.	£ 3. 36. 0.	£ 3. 37. 0.	£ 3. 38. 0.	£ 3. 39. 0.	£ 3. 40. 0.	£ 3. 41. 0.	£ 3. 42. 0.	£ 3. 43. 0.	£ 3. 44. 0.	£ 3. 45. 0.
45	£ 3. 28. 3.	£ 3. 29. 3.	£ 3. 30. 3.	£ 3. 31. 3.	£ 3. 32. 3.	£ 3. 33. 3.	£ 3. 34. 3.	£ 3. 35. 3.	£ 3. 36. 3.	£ 3. 37. 3.	£ 3. 38. 3.	£ 3. 39. 3.	£ 3. 40. 3.	£ 3. 41. 3.	£ 3. 42. 3.	£ 3. 43. 3.	£ 3. 44. 3.	£ 3. 45. 3.	£ 3. 46. 3.	£ 3. 47. 3.
50	£ 3. 30. 6.	£ 3. 31. 6.	£ 3. 32. 6.	£ 3. 33. 6.	£ 3. 34. 6.	£ 3. 35. 6.	£ 3. 36. 6.	£ 3. 37. 6.	£ 3. 38. 6.	£ 3. 39. 6.	£ 3. 40. 6.	£ 3. 41. 6.	£ 3. 42. 6.	£ 3. 43. 6.	£ 3. 44. 6.	£ 3. 45. 6.	£ 3. 46. 6.	£ 3. 47. 6.	£ 3. 48. 6.	£ 3. 49. 6.
55	£ 3. 33. 0.	£ 3. 34. 0.	£ 3. 35. 0.	£ 3. 36. 0.	£ 3. 37. 0.	£ 3. 38. 0.	£ 3. 39. 0.	£ 3. 40. 0.	£ 3. 41. 0.	£ 3. 42. 0.	£ 3. 43. 0.	£ 3. 44. 0.	£ 3. 45. 0.	£ 3. 46. 0.	£ 3. 47. 0.	£ 3. 48. 0.	£ 3. 49. 0.	£ 3. 50. 0.	£ 3. 51. 0.	£ 3. 52. 0.
60	£ 3. 35. 3.	£ 3. 36. 3.	£ 3. 37. 3.	£ 3. 38. 3.	£ 3. 39. 3.	£ 3. 40. 3.	£ 3. 41. 3.	£ 3. 42. 3.	£ 3. 43. 3.	£ 3. 44. 3.	£ 3. 45. 3.	£ 3. 46. 3.	£ 3. 47. 3.	£ 3. 48. 3.	£ 3. 49. 3.	£ 3. 50. 3.	£ 3. 51. 3.	£ 3. 52. 3.	£ 3. 53. 3.	£ 3. 54. 3.
65	£ 3. 37. 6.	£ 3. 38. 6.	£ 3. 39. 6.	£ 3. 40. 6.	£ 3. 41. 6.	£ 3. 42. 6.	£ 3. 43. 6.	£ 3. 44. 6.	£ 3. 45. 6.	£ 3. 46. 6.	£ 3. 47. 6.	£ 3. 48. 6.	£ 3. 49. 6.	£ 3. 50. 6.	£ 3. 51. 6.	£ 3. 52. 6.	£ 3. 53. 6.	£ 3. 54. 6.	£ 3. 55. 6.	£ 3. 56. 6.
70	£ 3. 40. 0.	£ 3. 41. 0.	£ 3. 42. 0.	£ 3. 43. 0.	£ 3. 44. 0.	£ 3. 45. 0.	£ 3. 46. 0.	£ 3. 47. 0.	£ 3. 48. 0.	£ 3. 49. 0.	£ 3. 50. 0.	£ 3. 51. 0.	£ 3. 52. 0.	£ 3. 53. 0.	£ 3. 54. 0.	£ 3. 55. 0.	£ 3. 56. 0.	£ 3. 57. 0.	£ 3. 58. 0.	£ 3. 59. 0.
75	£ 3. 42. 3.	£ 3. 43. 3.	£ 3. 44. 3.	£ 3. 45. 3.	£ 3. 46. 3.	£ 3. 47. 3.	£ 3. 48. 3.	£ 3. 49. 3.	£ 3. 50. 3.	£ 3. 51. 3.	£ 3. 52. 3.	£ 3. 53. 3.	£ 3. 54. 3.	£ 3. 55. 3.	£ 3. 56. 3.	£ 3. 57. 3.	£ 3. 58. 3.	£ 3. 59. 3.	£ 4. 0. 3.	£ 4. 1. 3.
80	£ 3. 44. 6.	£ 3. 45. 6.	£ 3. 46. 6.	£ 3. 47. 6.	£ 3. 48. 6.	£ 3. 49. 6.	£ 3. 50. 6.	£ 3. 51. 6.	£ 3. 52. 6.	£ 3. 53. 6.	£ 3. 54. 6.	£ 3. 55. 6.	£ 3. 56. 6.	£ 3. 57. 6.	£ 3. 58. 6.	£ 3. 59. 6.	£ 4. 0. 6.	£ 4. 1. 6.	£ 4. 2. 6.	£ 4. 3. 6.
85	£ 3. 47. 0.	£ 3. 48. 0.	£ 3. 49. 0.	£ 3. 50. 0.	£ 3. 51. 0.	£ 3. 52. 0.	£ 3. 53. 0.	£ 3. 54. 0.	£ 3. 55. 0.	£ 3. 56. 0.	£ 3. 57. 0.	£ 3. 58. 0.	£ 3. 59. 0.	£ 4. 0. 0.	£ 4. 1. 0.	£ 4. 2. 0.	£ 4. 3. 0.	£ 4. 4. 0.	£ 4. 5. 0.	£ 4. 6. 0.
90	£ 3. 49. 3.	£ 3. 50. 3.	£ 3. 51. 3.	£ 3. 52. 3.	£ 3. 53. 3.	£ 3. 54. 3.	£ 3. 55. 3.	£ 3. 56. 3.	£ 3. 57. 3.	£ 3. 58. 3.	£ 3. 59. 3.	£ 4. 0. 3.	£ 4. 1. 3.	£ 4. 2. 3.	£ 4. 3. 3.	£ 4. 4. 3.	£ 4. 5. 3.	£ 4. 6. 3.	£ 4. 7. 3.	£ 4. 8. 3.
95	£ 3. 51. 6.	£ 3. 52. 6.	£ 3. 53. 6.	£ 3. 54. 6.	£ 3. 55. 6.	£ 3. 56. 6.	£ 3. 57. 6.	£ 3. 58. 6.	£ 3. 59. 6.	£ 4. 0. 6.	£ 4. 1. 6.	£ 4. 2. 6.	£ 4. 3. 6.	£ 4. 4. 6.	£ 4. 5. 6.	£ 4. 6. 6.	£ 4. 7. 6.	£ 4. 8. 6.	£ 4. 9. 6.	£ 4. 10. 6.
100	£ 3. 54. 0.	£ 3. 55. 0.	£ 3. 56. 0.	£ 3. 57. 0.	£ 3. 58. 0.	£ 3. 59. 0.	£ 4. 0. 0.	£ 4. 1. 0.	£ 4. 2. 0.	£ 4. 3. 0.	£ 4. 4. 0.	£ 4. 5. 0.	£ 4. 6. 0.	£ 4. 7. 0.	£ 4. 8. 0.	£ 4. 9. 0.	£ 4. 10. 0.	£ 4. 11. 0.	£ 4. 12. 0.	£ 4. 13. 0.

2. *Annuities on Lives* are of different kinds, according as they are made to depend upon single lives, joint-lives, or upon lives subject to particular contingencies. They are, as well as the former class, currently sold by government, and also by insurance companies. Their value of course fluctuates with the market-rate of interest; but is mainly dependent upon the age of the nominee; being highest when the expectancy of life is greatest, and decreasing gradually as age advances. Of late years also, a distinction has been made between the sexes, as most observations unite in confirming the fact, that on the average females live longer than males. The following table shows the rates at which annuities on single lives are at present granted by government :—

LIFE ANNUITIES, which £100 (*Money*) will purchase when the 3 per cent. Stock, *ex dividend*, is at the following prices :—

Age of Nominee.	£99, 3s. 6d. and under £100, 16s. 10d., the rate of interest being £3 per cent.		£91, 12s. 1d., and under £93, 0s. 6d., the rate of interest being £3, 5s. per cent.		£85, 2s. 2d., and under £86, 6s. 7d., the rate of interest being £3, 10s. per cent.		£79, 9s. 5d., and under £80, 10s. 9d., the rate of interest being £3, 15s. per cent.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
15	£ s. d. 4 13 0	£ s. d. 4 6 11	£ s. d. 4 17 3	£ s. d. 4 11 2	£ s. d. 5 1 6	£ s. d. 4 15 6	£ s. d. 5 5 10	£ s. d. 4 19 9
20	4 17 5	4 9 7	5 1 8	4 13 10	5 5 10	4 18 0	5 10 4	5 2 3
25	5 0 2	4 12 8	5 4 3	4 16 9	5 8 6	5 0 11	5 12 8	5 5 2
30	5 4 0	4 16 6	5 8 1	5 0 7	5 12 1	5 4 7	5 16 3	5 8 9
35	5 9 6	5 1 2	5 13 6	5 5 1	5 17 5	5 9 2	6 1 7	5 13 3
40	5 17 0	5 6 8	6 0 11	5 10 6	6 4 10	5 14 5	6 8 10	5 18 5
45	6 7 5	5 13 11	6 11 3	5 17 9	6 15 1	6 1 8	6 19 1	6 5 6
50	7 2 8	6 4 1	7 6 6	6 7 10	7 10 5	6 11 8	7 14 4	6 15 6
55	8 2 1	6 18 10	8 5 11	7 2 6	8 9 10	7 6 4	8 13 10	7 10 1
60	9 5 6	7 19 2	9 9 5	8 2 11	9 13 4	8 6 9	9 17 3	8 10 6
65	11 1 0	9 8 9	11 4 11	9 12 7	11 8 10	9 16 4	11 12 11	10 0 4
70	13 9 4	11 11 6	13 13 3	11 15 5	13 17 4	11 19 4	14 1 4	12 3 4
75	16 18 0	14 11 3	17 2 1	14 15 5	17 6 1	14 19 6	17 10 1	15 3 8
80 & up.	23 16 6	18 9 7	24 0 9	18 13 10	24 5 0	18 18 1	24 9 3	19 2 3

These annuities are payable half yearly, and are transferable; and upon the death of any nominee, a sum equal to one-fourth part of the annuity, besides arrears, will be payable to those entitled thereto, or their executors, provided the same shall be claimed within two years. They are sold at the National Debt Office; where tables may be obtained showing the values corresponding to all ages, and fluctuations of stock. Annuities on joint-lives, and for deferred periods, may be purchased on similar terms.

The annuities granted by insurance companies are in some cases based upon the *Northampton* table; in others, upon the *Carlisle* table, the *Government* tables, or some modification of them. [INTEREST AND ANNUITIES.]

In considering a life-annuity as a subject of commerce, it must be kept in view that it is susceptible of two different market prices, according as it is the purchaser or seller of the annuity that goes to market. The values stated above are applicable solely to the case of a party *wishing to purchase* an annuity. A party possessed of one on his own life, or on that of any other, *wishing to sell*, must be content to accept of a great deal less than its full value; as the contingent nature of the security, the difficulty of employing profitably capital repaid in small instalments, and other circumstances, have always depreciated the value of life-annuities, when viewed as mere objects of investment. The price at different periods depends upon the state of the money-market: but in general, a person who invests money in the purchase of annuities, demands as much as is calculated to replace the capital sum advanced by him, with interest considerably higher than the ordinary rate; formerly 8, 10, or 12 per cent. was charged; at present it is about 6 per cent. There are thus two market prices for annuities, depending upon the circumstances and necessities of the party going to market. In the first case, the *purchaser* of the annuity gets his money returned, making allowance for the chances of life, with interest at 3 per cent. or a little more; while the person who is forced to *sell* his annuity must be content to accept of such a price as will make a return to the money-dealer of about 6 per cent., exclusive of casualties. [FUNDS. INTEREST AND ANNUITIES. REVERSIONS.]

Under the legacy act, 36 Geo. III. c. 52, annuities are valued by the *Northampton* table, at 4 per cent.

Redeemable Annuities are those which are redeemable on certain terms by the grantor,—as by

repayment of the consideration-money. Life annuities being attended with risk, are not within the reach of the usury laws, and are therefore used by landed proprietors, and others having a limited interest in their property, to evade them,—more especially when the market-rate of interest exceeds the legal rate. During the late war, the most exorbitant terms were frequently exacted for loans on annuity; and certain formalities in their creation were in consequence introduced by the act 53 Geo. III. c. 141 (explained by 3 Geo. IV. c. 92; and 7 Geo. IV. c. 75). By this statute annuity-bonds or instruments granted for money *in loan*, must be enrolled in Chancery within 30 days after their execution: it does not, however, extend to Scotland or Ireland.

ANTHAL, a Hungarian wine measure = $11\frac{1}{2}$ imperial gallons.

ANTHRACITE is a mineral charcoal, black, light, and often with a shining surface, whence it is named *glance* coal. It is also called *blind* coal from its burning without flame. Anthracite is found in many of our coal-mines, but was little worked until lately, when its value became known in South Wales, where it is employed for smelting iron. In the United States it is used extensively, being burned in peculiar grates adapted to its difficult combustion.

ANTIGUA. [WEST INDIES.]

ANTIMONY (Fr. *Antimoine*. Ger. *Spiesglans*. Mal. *Soormah*. Tam. *Anjana Kalloo*), a metal extensively used in medicine; and in the arts employed in the composition of printing types, music-plates, &c. The metallic ore of commerce consists of sulphur and other impurities combined with the pure metal. This ore is found abundantly at Rosenau, in Hungary, and in other parts of Europe; but is imported into this country chiefly from the Malayan Archipelago. It is generally of a lead-gray colour, possessing considerable splendour, and is met with compact,—in acicular crystals,—and in rhombic prisms of considerable size, and variously modified. *Crude* antimony is the name given in commerce to the sulphuret of the metal, after being separated from the impurities of the ore, by fusion, and a species of filtration. It is usually in the form of loaves, of a dark-gray colour, the goodness of which is estimated from their compactness and weight, the largeness and distinctness of the striæ, and from their being entirely vaporizable by heat. *Regulus* of antimony, the pure metal after being separated from the sulphur, is commonly of a dusky-white colour, very brittle, and of a scaly texture. Sp. gr. about 6·8.

ANTWERP. [BELGIUM.]

APPLE (Fr. *Pomme*. Ger. *Apfel*), the well-known fruit of the *pyrus malus*, is distinguished as being at once the most brisk and refreshing of the orchard fruits of the colder climates. It is also the most generally cultivated, as it remains the longest in season, and is used in the greatest number of ways. Apples, when ripe, yield easily to the pressure of the finger at the stalk-end of the fruit. The best for table are the *Golden* and *Ribston Pippins*, and for storing for kitchen-use, the *Yorkshire Green* and *Stock Ledingtons*. The Catalogue of the Horticultural Society of London, however, enumerates more than 1200 varieties. The chief localities of this fruit in Britain, are the CIDER districts in England, and Lanarkshire in Scotland. Apples are imported in considerable quantity from the Channel Islands, France, and the United States.

The wood of the apple tree is hard and heavy, and well adapted for the working parts of machinery, if not under water.

APPRAISEMENT, or VALUATION, is generally used to designate the estimation of the pecuniary value of estates or commodities, made by a sworn *appraiser* or *valuer*. By 46 Geo. III. c. 43, appraisers must take out an annual license from the excise. The act applies to “every person who shall value or appraise any estate or property, real or personal, or any interest in possession or reversion, remainder or contingency in any estate, real or personal, or any goods, merchandise or effects, of whatsoever kind or description the same may be, for, or in expectation of any hire, gain, fee, or reward, or valuable consideration to be therefor paid to him” (§ 4). The penalty for acting without license is £50 for each offence (§ 6). Licensed auctioneers may act without taking out an appraiser’s license (§ 7). Each appraisement must be extended on a stamp, in terms of the statute.

APPRENTICE, an individual (generally under the age of twenty-one) who is subjected to an engagement to serve for a stipulated period under the practiser of some trade or profession, in matters referring thereto, on condition of receiving instruction in return.

IN ENGLAND, it is held that by the common law no man can be prohibited from working in any lawful trade at his pleasure. By the statute 5 Elizabeth, chap. 4, this freedom was restricted in so far as, with some special exceptions, an apprenticeship of seven years was necessary to enable any person “to set up, occupy, use, or exercise any craft, mystery, or occupation,” and the form and manner of this engagement was strictly regulated. By 54 Geo. III. c. 96, the portion of this

statute affecting apprentices was repealed, and it was declared (§ 2), "that it shall and may be lawful for any person to take, or retain, or become an apprentice, though not according to the provisions of the said act : and that indentures, deeds, and agreements in writing, entered into for that purpose, which would be otherwise valid and effectual, shall be valid and effectual in law." It was provided that the repeal should not affect the customs of the city of London, or those of any city, town, corporation, or company lawfully constituted. This latter reservation will be affected by 5 & 6 Wm. IV. c. 76, § 14, by which the exclusive privileges of corporations are abolished, and it is enacted, that "notwithstanding any custom or by-law, any person in any borough may keep any shop for the sale of all lawful wares and merchandises for wholesale or retail, and use every lawful trade, occupation, mystery, and handicraft, for hire, gain, sale, or otherwise within any borough." It is held that by the common law persons under the age of twenty-one cannot bind themselves so as to be liable to an action of covenant to fulfil the conditions, and that the father or guardian cannot bind the infant without his consent. Hence the undertaking is generally on the part of both, the parent or guardian becoming bound for the apprentice's faithful discharge of his duty. A youth, however, who has bound himself singly and fulfilled his apprenticeship will be entitled to the benefit of it. By the custom of London, an infant unmarried and above the age of fourteen may bind himself to a freeman. The covenant between the parties is contained in a mutual deed or indenture. In the city, indentures must be enrolled before the chamberlain within a year, on a petition to the mayor and aldermen, otherwise a *sciri factas* shall issue to the master to show cause why it is not enrolled ; and if the omission is owing to the master, the apprentice may sue out his indentures and be discharged. The father or other person who has covenanted for the apprentice is bound for his true performance of the articles. Every indenture entered into by an infant, is voidable at his election on his attaining the age of twenty-one ; but if any adult have covenanted for his performance of his duties, that person continues liable ; and so it has been held that a father who had become bound for his son was not released by his son's attaining majority during the currency of the period, but was liable for his then absenting himself (*Cuming v. Hill*, 1819, 8 B. & A. 59). The parties becoming bound with an apprentice, generally agree to pay the master a premium or fee, as a farther remuneration for his instructing the young person. By 8 Anne, c. 9, § 39, the full "sum paid, secured, or contracted for," must be stated in the indenture, otherwise it will be void,—the temporary act 42 (Geo. III. c. 23, § 7, which gave power on payment of double duty to rectify the omission, having expired. Where an indenture was void by omission of the premium, it was found that the master had no action against the apprentice's father on a promissory note given as apprentice fee, though he had maintained the apprentice till he absconded (*Jackson v. Warwick*, 1797, 7 T. R. 121). By the stamp laws, if "any thing, not being money, shall, directly or indirectly, be given, assigned, conveyed, delivered, contracted for, to or for the use or benefit of any master, with or in respect of any such apprentice, &c., the duties, &c. should be paid for the full value of such thing or things" (8 Anne, c. 9, § 45). This has been held not to apply to the friends of an apprentice covenanting to maintain him and supply him with clothes (*Rex v. Leighton*, 1792, 4 T. R. 732). Whatever an apprentice gains is gained to his master, who will not be deprived of his remedy by a defect in the contract. The contract of apprenticeship terminates by the consent of all the parties, or by the death of the apprentice, or by the death of the master. In this last case, however, though the obligation on the master to teach the apprentice is personal, and so terminates with his life, yet if he have become bound to provide the apprentice with food and clothing, his executors must fulfil the obligation in so far as they have assets. By the custom of London, it is held that, when the master dies the executors must bind the apprentice to another master in the same trade. The discharge of an apprentice requires to be in writing. By 6 Geo. IV. c. 16, § 49, the issuing of a commission (now fiat) of bankruptcy against the master operates as a discharge.

The enforcement of the mutual obligations between masters and apprentices is in a great measure committed to the Justices of Peace. By 20 Geo. II. c. 19, § 2 ; 33 Geo. III. c. 55, § 1 ; and 4 Geo. IV. c. 29, in the case of parish apprentices (see below) or those with whom an apprentice fee not exceeding £25 has been paid, the apprentice may summon his master to appear before two justices on a complaint of misusage, refusal of necessary provision, cruelty, or other ill-treatment, and the justices may discharge him by a warrant for which no fees are payable, and on consideration of the circumstances may cause the master to

refund the whole or any part of the premium ; or two or more justices at special or petty sessions may impose on the master a fine not exceeding 40s. On the other hand, on complaint by a master of misdemeanour, miscarriage, or ill behaviour on the part of his apprentice, two justices may commit the latter to the house of correction for a period not exceeding one month, or discharge him. [FACTORIES.] By 6 Geo. III. c. 25, and 4 Geo. IV. c. 34, any such apprentice absconding, may be compelled to make up for the time during which he has absented himself, or be imprisoned for three months, on oath being made by the master, or any steward or overseer, to a Justice of Peace. A master cannot recall any license he may have given to an apprentice to leave him ; and if the master dismiss him for negligence, he may be bound in equity to refund part of the premium. By the custom of London, a freeman may turn away an apprentice for gaming (*Burn's Justice*. *Sir E. Tomlin's Law Dictionary*. *Smith's Mercantile L.* 372-376).

Parish Apprentices are such as are bound to inhabitants and occupiers of lands and tenements within the parish by church-wardens and overseers : and by 43 Eliz. c. 2, § 5, and 18 Geo. III. c. 47, these officers are empowered, with the assent of two justices, to bind as apprentices children whose parents they judge unable to support them. But they must be bound for no longer a period than till they reach the age of twenty-one, and the engagement of a female is terminable with her marriage. By 56 Geo. III. c. 139, § 7, the child before being apprenticed must have attained the age of nine years. It is for the church-wardens and overseers, in their discretion, to find proper persons to whom they may bind parish apprentices ; and the justices may compel them to receive the children, under penalty of £10 for the use of the poor, to be levied by distress and sale. The master, however, if he feel aggrieved by the order, may appeal to the sessions. Clergymen and gentlemen of fortune are liable, but officers of the army are exempted by the Mutiny Acts. Mere strangers who stand in no relation to the parish cannot be compelled to take apprentices, but occupants of lands in it, though they reside elsewhere, are liable. By 32 Geo. III. c. 57, provision is made for compelling masters to support their apprentices, and awarding punishment for ill usage ; and it is enacted by § 12, that if any one is convicted of abusing his apprentice, no other shall be bound to him, but he shall be compelled to pay a composition of not more than £10 or less than £5, for the purpose of binding out any child who otherwise would be forced on him. The binding of parish apprentices is particularly regulated by 56 Geo. III. c. 139. By § 1, provision is made for preventing children from being removed to a great distance from the parochial officers and their parents, and it is enacted that an apprentice shall not be sent to an establishment out of the county, more than forty miles from his own parish, unless he belong to one more than forty miles from the city of London, in which case an apprenticeship to a greater distance may be made by special order of the justices. By the late Poor Law Act (4 & 5 Wm. IV. c. 76, § 15), the commissioners are empowered to issue rules and regulations as to apprenticeships (*Burn's Justice and Statutes quoted*).

IN SCOTLAND there has never been any general regulation enforcing apprenticeships, such as the act of 5 Elizabeth : and the conditions in each trade or profession are still regulated by their respective charters and by-laws. The period is generally five years. An apprenticeship confers no general privilege beyond the corporation of which the master is a member. It has been laid down, that the acts of parliament, giving special jurisdiction to justices of the peace in questions between master and apprentice, do not apply to Scotland (*Tait's Justice*, 4). This is undoubtedly the case with those enactments which refer to parish apprentices, of which there are none in this country, but in late cases it has been taken for granted that the act 4 Geo. IV. c. 34 embraces North Britain (*Frame agt. Campbell*, 9th June 1836, 14 *D. B. M.* 914). The st: mp acts, as above referred to, apply to Scotland. The indenture must be attested by two male persons, who sign with the designation " witness " after their names, and who must have seen the principals subscribe or have heard them acknowledge their subscriptions, and whose names must be inserted in the testing clause. A minor pupil (that is, a boy under fourteen years of age, and a girl under twelve) cannot be bound, except through the engagement of a parent or guardian. A minor above pupillarity, if he have guardians, must have their consent ; but if he have none, he may validly contract, though the engagement is liable to reduction on the ground of minority, and lesion, or injury to his interests. By the common law, an apprentice cannot enlist in the army, or enter the navy unless he has been bred at sea. The rule is often nullified by the annual mutiny act and other statutes (*Ersk. Inst.* I. 8. 63. *Tait's Justice of Peace*. *Burton's Manual*).

APRICOT (Fr. *Abricot*. Ger. *Ahprikat*), the fruit of the *Prunus Armeniaca*, a tree widely diffused in Asia, and growing in abundance upon the oases of Africa, from whence the fruit, called there *Mish-mish*, is brought in a dried state to Egypt. Various kinds are cultivated in this country, particularly in the South of England. Of those cultivated upon walls, the *Orange* is the best for preserving, and the *Moorpark* and *Turkey* for the table. The *Breda* and the *Brussels*, both well-suited for preserving, are the kinds preferred when grown upon open standard trees. The wallfruit is said to be the finest, but the other is the best flavoured.

AQUAFORTIS, a name given to impure nitric acid. [NITRIC ACID.]

AQUA-MARINE. [BERYL.]

AQUA-REGIA. [CHLORINE.]

AQUA, OR AQUA-VITÆ, a term absurdly applied to ardent spirits.

ARABIA extends from 12° to 34° N. lat., and from 33° to 60° E. long. It is bounded N. by Turkey in Asia; W. by the Red Sea, and Isthmus of Suez; S. by the Indian Ocean; and E. by the Persian Gulf. Its area is vaguely estimated at 1,000,000 square miles, and its population at 10,000,000; composed partly of the commercial inhabitants of the coast, who form a regular society, and partly of *Bedouins* or pastoral Arabs, who live in tents, and subsist by their flocks, or by the plunder of passing caravans. Arabia is subject to a great variety of rulers. In the coast districts, monarchies, more or less extensive, have been formed. The chief of these are, Hejaz, or the Sheriffat of Mecca, now subject to the Pacha of Egypt; the Imamatus of Sanaa, or kingdom of Yemen; and the Imamatus of Muscat. The remainder is mostly divided among a vast number of petty sheiks, whose government resembles that which formerly prevailed among the Scottish clans. Nejd, the central part, is possessed by the Wahabees, a body of religious reformers, who, about the beginning of the present century, overran nearly the whole peninsula, but since 1818, have been confined to their original district, by the Pacha of Egypt.

Arabia is proverbially an arid barren country. Scarcely a single river exists; and almost the whole of the interior is occupied with sandy deserts,—diversified only by a few *oases* or spots of fertility. Some of the districts on the coast, however, particularly Yemen, are fertile and beautiful. The chief productions are coffee, which is grown in Yemen, at Bulgoosa, near Beit-el-Fakih, gum-arabic, dates, pomegranates, figs, oranges, opobalsam, and a variety of odoriferous plants. Senna and the cotton-tree are also cultivated in Yemen; and indigo is cultivated about Zebid. There are no mines of the precious metals; but Niebuhr states that iron exists in the territory of Saade; and that the lead-mines of Oman are productive. Arabia has long been celebrated for its horses: the best are bred in the desert bordering on Syria.

The commerce of Arabia may be divided into the maritime commerce of the Red Sea, from Hejaz and Yemen; that of the Persian Gulf, from Muscat and Bussora; and the caravan trade. The three last are described under the articles MUSCAT, TURKEY, and CARAVAN.

HEJAZ, OR SHERIFFAT OF MECCA, comprises the N. and W. part, bordering on the Red Sea. It is the holy land of the Mohammedans, on account of its containing Mecca, the native town of Mohammed, and Medina, the city where he is interred. It is under the nominal dominion of the Grand Seignior, as protector of the holy cities, but in reality it is subject to the Pacha of Egypt. The other chief towns are Jiddah, the seaport of Mecca, and Yembo, the seaport of Medina. The maritime commerce of the country is almost all concentrated at Jiddah.

Jiddah, in 21° 29' N., and 39° 15' E., is described as a fine town, and perhaps the wealthiest of the same extent in the east; but the port is not commodious, and large vessels are obliged to anchor at the distance of two miles, and discharge their cargoes by boats. The population is 15,000. The inhabitants are almost all engaged in commerce, and business is transacted with punctuality and despatch. The trade is much influenced by the number of pilgrims or hajjis, who visit Mecca annually in the month Dalhajja, from all Mohammedan countries, and which, by the greater number, is made subservient to commercial purposes. It is further influenced by a regulation that prevents Yemen vessels from passing without payment of a heavy duty; in consequence of which their cargoes are generally landed, and reshipped by Jiddah merchants. The principal trade is that with India. Some vessels arrive direct from Calcutta, freighted solely with rice, sugar, and Dacca muslin; others bring blue cloths, cambric, of which the ihram is made, and indigo; the latter complete their lading on the Malabar coast with teak-timber, cocoa-nut oil, cocoa-nuts, black pepper, dried ginger, turmeric, &c. This branch of commerce is now, however, on the decline. Ships seldom leave Bombay direct for the Red Sea, unless they are small, and intended for the coasting-trade; the usual practice is to proceed to the Malabar coast, where they take in cargoes of the same articles as the Bengal ships, in addition to which, they bring annually from Bombay 400 or 500 tons of pig-lead, which is landed at Mocha, and afterwards sold to the Somaulies at Berbera. The imports from Surat consist of Cashmere shawls, tissue, flowered and embroidered muslin, and other valuable cloths, amounting yearly to about \$600,000: from Bushire and Bussora, wheat, tobacco, dates, and Persian carpets for the Bedouin sheiks, in whose tents, one at least is considered as indispensable: from the Malay islands, little is brought except spices; and ships from thence complete their cargoes on the Malabar coast with rice. The returns made for these imports are mostly in cash, with a few pearls of indifferent quality, shark skins and fins, and some chests of red beads, old copper-ware, &c. All the vessels make up their return cargoes at Aden and Mocha with coffee. The coffee trade between Jiddah and Egypt has much declined since the importation of American and West Indian coffee into the ports of the Mediterranean and Levant. Corn is imported from Upper Egypt entirely on account of the Pacha. Timber for ship-building is supplied either from India or by way of the Nile, from the Mediterranean. The intercourse betwixt Jiddah and the opposite coast of Africa, is considerable, Indian goods, manufactures,

iron, &c. being sent in exchange for ghee, mats, barley, hides, slaves, tobacco, and gold. The number of vessels belonging to Jiddah and Yembo may be estimated at from 250 to 300. (Comm. by Lieut. Wellsted. *I. N. to Geo. Soc. Journal*, vol. vi.)

Measures, Weights, and Money.—The native measures cannot be stated with accuracy. The bahar of 10 frazils, 100 maunds, or 200 rattles = 222½ lbs. avoird. Accounts are kept in cruise of 40 dunes; 25 cruise pass for about 100 Spanish dollars. Of late years, the Egyptian measures, weights, and monies, have been much used.

IMANAT OF SANAA.—This state comprises the principal part of Yemen, situate in the S. and W. part of Arabia bordering on the Red Sea. The area is vaguely estimated at 52,000 sq. miles, and pop. at 1,000,000. It is subject to an imam, a kind of hereditary monarch, whose capital is Sanaa, pop. 37,000; but the commercial emporium of the country is Mocha.

Mocha, in 13° 20' N., and 43° 20' E., is the principal port in the Red Sea frequented by Europeans, pop. 5000. It is situate about 40 miles N. of Cape Babel Mandeb, between two projecting points of land, which shelter vessels whose draught (if not more than 10 or 11 feet) allows them to anchor within a mile of the town; large ones lie further out, and are exposed as in an open road. Provisions are here plentiful and cheap, but good water is scarce. The principal article of export is coffee; the others are gum-arabic, tragacanth, myrrh, frankincense, civet, balsam, dates, acorns, rhinoceros' horns and hides, sagapenum, salep, senna, and sharks' fins. The imports consist principally of rice, ghee, iron, hardware, and other manufactures. The foreign trade is transacted chiefly by Banians. All produce is sold by tale or weight, at so much the Spanish dollar. According to Mr Milburn (*Oriental Commerce*), the duty payable on exports and imports by the British is 3 per cent. *ad valorem*, besides brokerage and shroffage.

Measures and Weights.—The covid = 19, and the guz = 25 Imp. inches; the gudda of 8 noosflas = 1½ Imp. gall.; and the tomand, dry measure, containing 40 kellas, weighs of rice 168 lbs. avoird. The bahar of 15 frazils, or 150 maunds = 450 lbs. avoird. The miscal of 1¼ coffola, or 24 carats = 7337 troy grains; 10 coffolas = 1 vakia; and 87 vakias = 100 Spanish dollars weight.

Money accounts are kept in piastres, or Mocha dollars of 80 cavears; and as 121½ piastres = 100 Spanish dollars (in which payments are made), the piastre is worth about 3s. 5d. sterling. The native coins are, commasses of 7 carats; 40 commasses generally pass for a dollar.

ARANGOES, large beads formed from rough carnelian, formerly much used in the African slave trade.

ARBITRATION, a contract by which two or more parties engaged in a dispute agree, by an instrument called a submission, to leave the decision to a third party, called an arbiter or arbitrator. The submission is generally in the form of mutual bonds, binding each to obey the award under penalties. In contracts of partnership, it is usual to insert conditions of arbitration which have the effect of preventing one member from resorting to a lawsuit, unless a reference has proved ineffectual, or the others have refused to accede to it. Where the submission, as was frequently the case, came into existence in the course of a litigation, the English courts adopted the practice of enforcing the decision of the arbiter, as against litigants before the court, and by 9 & 10 Wm. III. c. 15, the same privilege was extended to all formal written submissions. The proper subjects of arbitration are those questions as to fact, which are generally referred to a jury,—a liquid debt specified and defined by deed is therefore not a proper subject. Where there is more than one arbiter, there is generally authority to choose an umpire if they cannot come to a decision,—and this last must be selected by voluntary choice, not by lot. The object of arbitration is a final determination, and so a reservation is void. An award to do an illegal act, or one which cannot be done by the party, is void. The courts exercise considerable discretion in overlooking minute deficiencies, and allowing the evident meaning and intention of the various parties to be put in practice; and though an award be void as to some portion of it, yet if it be specific in assigning to the parties the rights which the arbiters intended to bestow on them, it will be good as to the remainder. When a time is limited for making an award it cannot be protracted, except by prolongation consented to by parties, or permitted by rule of court. The courts will not relieve a person who has voluntarily submitted his case to an arbiter from the consequences of the decision, unless on grounds of corruption, partiality, or mistake. The law of Scotland as to arbitration, in principle resembles that of England. If the submission contain a clause of registration the decree-arbitral can be enforced as if it were the decree of a court. (*Caldwell on Arbitration. Parker on Arbitration.*)

ARBITRATION OF EXCHANGE, the deduction of a proportional or *arbitrated* rate of exchange between two places through an intermediate place, in order to ascertain the most advantageous method of drawing or remitting. [EXCHANGE.]

ARCHANGEL. [RUSSIA.]

ARCHILL. [ORCHILL.]

ARCHIM, or **PIK**, the Turkish ell, is equal ¾ Imp. yard nearly.

ARE, the unit of the French measures of surface, equal to 100 square metres, or about 1076 British square feet.

ARECA-NUT. [BETEL-NUT.]

ARGENTINE REPUBLIC. [BUENOS AYRES.]

ARGOL, a common name for crude Tartar, in the state in which it is taken from the inside of wine vessels. [TARTAR.]

ARISTOLOCHIA, or SNAKE-ROOT (Fr. *Serpentaire de Virginie*. Ger. *Virginische Schlangenwursel*), the dried root of the *A. serpentaria* or Virginian snake-root. It consists of a short stock or head, with numerous rootlets three inches or more in length, thready, interlaced, and brittle; skin greenish yellow or brown, and pith iron-coloured. In odour and taste it resembles valerian and camphor. The root is all used, but the rootlets are more powerful than the solid part. It is employed in medicine, and its action is similar to that of camphor. Aristolochia is imported into this country from Virginia and Carolina. (*Duncan's Dispensatory*.)

ARITHMETIC, COMMERCIAL. [ALLIGATION. AVERAGE. DISCOUNT, &c.]

ARMS AND AMMUNITION. [GUN. GUNPOWDER.]

ARNOTTO. [ANNATTO.]

ARPENT, a land-measure in the old French system. The *Arpent des eaux-et-forêts* = 51.07 ares; the *Arpent de Paris* = 34.19 ares; and the *Arpent Commun* = 42.22 ares, or 1 British acre and 7 perches. The *Arpent of Geneva* = 51.66 ares, or 6179 British square yards.

ARRACK (Du. *Arak*. Fr. *Arac*. Por. *Araca*), an oriental name for spirituous liquors of all kinds, but in this country applied generally to those distilled in India and the adjoining regions. Arrack was formerly prepared in considerable quantity at Goa, but the principal seats of the manufacture at present are, the islands of Java and Ceylon. In the former, it is commonly termed *kneip*, and is made from a mixture of 62 parts molasses, 35 parts rice, and 3 parts of the sweet juice called palm-wine or toddy, extracted from the flowers of different species of palm-trees. In the latter, it is entirely distilled from cocoa-nut tree toddy. Ceylon arrack is reckoned superior to that of Java; and in India, to which very large quantities are annually exported, it brings a price 10 or 15 per cent. higher. The prime cost of arrack at Columbo varies from 8d. to 10d. per gallon. In India, it is prepared from the flowers of the *Bassia longifolia*, the *Mahwah* tree, and the *Bassia latifolia*. In Turkey, it is distilled from the skins of grapes, and flavoured with aniseed. (*Milburn's O. C.*)

ARRANZADA, a Spanish land-measure, estimated, for vineyard land, equal to 8 Imp. roods 33 poles nearly.

ARRATEL, the Portuguese pound = 7083 troy grains; and 98½ arratels = 100 lbs. avoird.

ARRESTMENT AND FORTHCOMING in Scotland, like foreign attachment in England [ATTACHMENT], is a process by which a creditor can lay an embargo on money due to his debtor by a third party, or on moveable property belonging to the same in the hands of such a party. If the debt has not been constituted by the decision of a court, the arrestment may be loosed if the debtor find security to pay. While the arrestment is in full force, if the person in whose hands it is taken pay his debt, or make over the property arrested to the arrester's debtor, he becomes liable for the debt. This process has of late been materially facilitated by the act 1 & 2 Vict. c. 114.

ARROBA, a Spanish and Portuguese weight; also a Spanish measure of capacity. It varies in different places. The *Arroba Weight*,—Spanish standard = 25.36 lbs. avoirdupois; Alicant = 27.38 do.; Valencia = 28.25 do.; Arragon = 27.76 do.; Portugal = 32.38 do. The *Arroba Measure of Capacity*,—Spanish standard for wine = 3.54 Imp. galls., and for oil = 2.78 do.; Malaga = 3.49 do.; Valencia = 2.59 do.; Canaries = 3.54 do.

ARROW-ROOT, a farinaceous substance procured in America, the West Indies, and Ceylon, from the root of the *Maranta arundinacea*; and in India, from the tubers of the *Curcuma angustifolia*. It is prepared in nearly the same manner as starch; and when good, should be free from all musty flavour, white, insipid, and form a consistent jelly when dissolved in eight parts of boiling water. (*Brande's Pharmacy*.) It retains its nourishing property unimpaired for many years. Arrow-root forms a common article of food for children and invalids; and about 900,000 lbs. are now annually imported into this country, chiefly from the British West Indies, and very little of it is re-exported. The best is brought from the Bermudas, New Providence, and Ceylon. It is frequently adulterated with potato starch, and great care is necessary in purchasing it.

ARSENIC (Fr. *Arsenic*, *Arsenic oxyde natif*. Ger. *Arsenik*, *weisse Arsenik*. It. *Arsenico*, *Arsenico üxneo*), an exceedingly brittle metal, of a strong metallic lustre, and white colour, running into steel-gray. Sp. gr. 5.9. This substance, however, being very soft, is of little value, and is not used in the arts. The arsenic of commerce

white oxide of that metal, or more correctly *arsenious acid*, a compound which is obtained chiefly in Bohemia and Saxony, in roasting the cobalt ores for making steel, and also by sublimation from arsenical pyrites. It is brittle, white, faintly sweetish in taste, more or less translucent, and is generally met with in cakes or fragments, retaining the shape of the subliming vessel; sometimes it has a green or reddish tinge owing to the presence of iron, sulphur, and other impurities; from these it is freed for pharmaceutical use by resublimation, when it is obtained in vitreous transparent cakes, which, however, soon grow opaque and crumble. Sp. gr. 3.72. In the shops it is commonly offered for sale in the form of a fine smooth powder, which is liable to adulteration with chalk and gypsum; the fraud is easily detected by exposing the suspected substance to heat, when the arsenic acid is entirely sublimed, and the additions remain. Arsenious acid, though one of the most virulent poisons, is used in medicine. It is also employed as an ingredient in *Scheele's Green* and other dyes, and in the manufacture of flint-glass. It combines with sulphur two compounds, which are known in commerce under the names of *REALGAR* and *ORPIMENT*.

SHEEN, OR ARCHIN, a Russian cloth measure = 28 Imp. inches or 0.71 metre.

STABA, a Persian measure of capacity = 2 Imp. bushels nearly.

ARTICHOKE (Fr. *Artichaut*), an esculent vegetable (*Cynara scolymus*), having perennial roots and annual stems, bearing large round heads. Each of these is composed of numerous oval calycinal scales, enclosing the florets, sitting on a broad receptacle; this and the fleshy base of the scales, being the only eatable parts of the plant, are gathered before the expansion of the flowers.

Jerusalem Artichokes are the tubers of the *Helianthus tuberosus*, a kind of sunflower. This name is due to its strong resemblance in taste to the real artichoke.

AS, a denomination given to the ancient Roman *libra*, or pound of 12 *unciae*; also the principal Roman coin. This last was composed chiefly of copper; and when first issued in the reign of Servius Tullius (B.C. 560) contained a pound of metal; but the weight was gradually diminished, until by the Papirian law (B.C. 178), asses of an ounce were coined. This rate was continued till Pliny's time (A.C. 70), long after. The weight and value of the *as*, at different periods, is however a subject of much difference of opinion among antiquaries.

ARABACCA (Fr. *Assaret*. Ger. *Haselkraut*), the root and leaves of the *Asafoetida Europæum*, a perennial plant indigenous in Britain, but generally imported from the Levant. It contains a camphor-like principle, and a bitter essence which is combined with gallic acid. It is used in veterinary medicine, and also as an ingredient in most of the cephalic snuffs.

BESTUS, OR AMIANTHUS, a mineral in silky filaments, which, when mixed with oil, may be woven into a fire-proof cloth. Localities, Portsoy and Glenelg in Scotland, St. Neveen in Cornwall, Corsica, and U. S. of America, where it is sometimes used as lamp-wick.

BASSIN, a small island of volcanic origin, lying in 7° 56' S., and 14° 24' W., 685 miles N.W. of St. Helena, and 1450 from the W. coast of Africa. Length 12 miles; breadth 6. It belongs to Britain; and, being at present used as a store for the African squadron, is occupied by a detachment of marines, who are employed in rendering available its scanty resources for supplying the ships with provisions and water.

BASSIN lies within the immediate influence of the S.E. trade-wind; and as it is directly in the track of ships on their passage home from the East, such as do not touch at the Cape or St. Helena, usually call here for refreshments. The roadstead at *Georgetown* offers secure anchorage. The island was for a long time chiefly celebrated in the "Almanac des Gourmands," on account of the abundance of turtle found on it. The season for catching them is between February and April, and their usual weight is from 400 to 700 lbs. "The turtle of Ascension, when scientifically examined, is esteemed of high and undoubted merit; but it is in general too large to reach England."

ASH, a tree of which there are many varieties. The common ash (*Fraxinus excelsior*) is one of the most useful of the British forest trees, on account of its rapid growth, and the excellence of its hard tough wood. The timber of the common ash is chiefly used for agricultural implements. It is also esteemed for the purposes of the coachmaker, cooper, and turner; and for ladders, poles, and other purposes which require strength, elasticity, and comparative lightness; while the underwood is excellent for hoops, rods, hop-poles, &c. It is, however, quite unsuitable for building purposes, as it neither stands moisture nor the weather. Of the known species, the white American (*F. Americana*) is the only one that rivals the

common ash in value. It abounds chiefly in New Brunswick, Canada, and the adjoining parts of the United States.

ASHES. [POTASH. BARILLA. KELP, &c.]

ASHLAR, a name given to rough stones ; and to freestones when they are first taken out of the quarry. The term is also applied to a facing made of squared stones.

ASPARAGUS (Fr. *Asperge*), a well-known esculent vegetable (*Asparagus officinalis*), having a perennial root and annual stalks. The stems are cut for use when only a few inches above ground. There are two varieties,—the green and the red ; the former is considered the best flavoured, but the latter, owing to its larger size and showy appearance, is more esteemed by gardeners.

ASPER, a small Turkish coin and money of account, equal at Constantinople to about the 100th part of a piastre. This proportion, however, varies in different places.

ASPHALTUM, a species of bitumen produced by the decomposition of vegetable matter. It is solid, brittle, of a black colour, vitreous lustre, and conchoidal fracture. It melts easily, and is very inflammable,—burning when pure without leaving ashes. Sp. gr. about 1.5. It abounds on the shores and surface of the Dead Sea, in Barbadoes, and in Trinidad, where it fills a basin of three miles in circumference. It also occurs in various parts of Britain and other countries. Asphaltum is sometimes employed, when mixed with grease, for a coating to ships, in place of tar ; and a mastic or cement composed principally of it, has of late been used as a material for roofs and pavements.

ASS, a domestic quadruped resembling the horse, but much inferior to that animal, both in beauty and utility. The ass has nearly the same mouth-marks as the horse,—takes from 2 to 3 years in growing, and lives from 25 to 30. It is less subject to disease than the other, and being content with scanty and coarse fare, is employed in this country by poor people in drawing small carts, and in carrying burdens ; the female is, besides, valued for her milk. The abject condition of this creature in northern climes is in part owing to its never being the subject of attention. In eastern countries, particularly in Arabia, where the breed is not only carefully tended, but frequently improved by intercourse with the fleet and fiery onagar (or wild ass), it is an animal of great strength and considerable beauty.

ASSAFŒTIDA (Fr. It. & Por. *Assafetida*. Ger. *Stinkander Asand*. Arab. *Hillect*. Pers. *Ungoozeh*), a medicinal gum-resin, composed of the juice of the roots of the *Ferula assafetida*, a large umbelliferous plant growing in the provinces of Khorassan and Laristan, in Persia. In its recent state it is white and semi-fluid, but by exposure to the sun it gradually hardens, and assumes a reddish colour. It is imported into this country by way of India, and in trade is met with in large irregular agglutinated masses of a waxy consistence, having a motley appearance owing to the mixture of white drops with others of a violet, red, and brown tint. It has a nauseous alliaceous smell, and a bitterish acrid taste. Those masses are to be selected which are clear, of a pale reddish colour, and variegated with a number of elegant white drops or tears. An inferior kind, full of sand and very foetid, is said to be a compound of garlic, sagapenum, turpentine, and a little of the real gum. Assafœtida loses some of its smell and strength by keeping ; it should, therefore, be preserved in bladders shut up in tin boxes, and kept apart. (*Duncan's Dispensatory*. *Brande's Pharmacy*.)

ASSAY, or ASSAYING (Fr. *Coupellation*. Ger. *Abtreiben auf der capelle*), a process by which the quality of gold and silver coin, plate, or bullion, is determined.

ASSETS, from the French *assez*, is used in England to signify goods *enough* to discharge the burden which is cast upon the executor or heir, of satisfying the debts and legacies of the testator or ancestor. They are divided into personal and real. The latter were not applicable to pay simple contract debts, until the passing of the act 3 & 4 Wm. IV. c. 104, intituled, "*To render Freehold and Copyhold Estates Assets for the Payment of Simple and Contract Debts*." On this subject, see *Ram's Treatise of Assets, Debts, and Encumbrances*. The word assets is employed in a more general sense to designate property presumed to be set apart to meet any obligation ; thus the acceptor of a bill is said to have assets of the drawer in his hands. It is also commonly used in trade to designate the funds, or property in possession of a merchant, in contradistinction to his *liabilities* or obligations.

ASSIGNATS, the paper-money issued in France after the Revolution. The want of public confidence and stagnation in trade, caused by that event, having led to the withdrawal of nearly all the current coin, the revolutionary government, with the view of providing a substitute, and at same time creating a market for the confiscated property possessed by them, issued notes in the following form :—" *National Property Assignât of 100 francs*." These notes were a legal tender ; but they

d from every other paper currency in not even professing to represent any thing; the relation of "National property" to 100 francs obviously depending on the comparative quantity of the property purchasable, and the number of assignats issued, neither of which was defined. The first issue was in May 1790, to the extent of 400 millions of francs, which bore interest by the day, like Exchequer bills.

To this was added 800 millions in September 1790, without the liability to pay interest. The government, finding this an easy method of supporting their treasury against new taxes, seized every opportunity to increase their issues, so that in 1791 they amounted to 3626 millions; in 1794, to 8817 millions; in 1795, to 19,700 millions; and lastly, in September 1796, to 45,579 millions of francs, or the immense sum of £1,823,160,000. These excessive issues produced a rapid depreciation in the value of the paper, so that in 1796, an assignat of 100 francs, professing to be worth £4, was currently exchanged for 5½ sous, or less than threepence. Having sunk below 1-300th part of their nominal value, they were called in,—the government offering to take them at 1 per cent. in payment of a forced loan, which was imposed in money, and to give *mandats*, a new species of paper-currency, in exchange for them, at the rate of 3 per cent. The ultimate result was, that of the 45,579,000,000, 12,744,000,000 were in some way or other discharged; the remaining 32,835,000,000 continued waste-paper in the holders' hands. The manœuvre of the nominal value of 2,400,000,000 francs (or £96,000,000); but they were taken out at a discount, and gradually sunk to less than 1-70th of their nominal value. They were issued June 9, 1796, and extinguished, partly in the purchase of confiscated property, and partly in the payment of taxes, before the end of the following September.

The financial bubble produced more profligacy, injustice, and misery, throughout France, than the proscriptions and sanguinary violence of the Reign of Terror. "Every body," says Mr. Storch, "taxed his ingenuity to find employment for a currency of which the value evaporated four to one. It was passed on as it was received, as if it burned every one's hands who held it." "Those who depended on fixed money payments were reduced to beggary; and at periods of general distress, to starvation. Every morning there were found in the streets, and on the shores of the Seine, the bodies of wretches who had preferred death by suicide to the horrors of starvation. The state of the labouring classes was scarcely more tolerable." The revolutionary convention made efforts equally violent and senseless, to prevent the constantly increasing depreciation of assignats in metallic money and in commodities; the rate at which corn, wine, fuel, clothing, and other necessary articles, were to be exchangeable for assignats, was fixed by law; and fine, imprisonment, confiscation, and death, were substituted for the ordinary penalties in commercial transactions. Of course, the majority of the shops were shut; and in those continued open, only the worst articles were exposed to sale. The bakers' shops were the principal subjects of legislation. They were not to be entered without a certificate; and a long queue was extended from the counter into the street, which the file of candidates for purchase were obliged to hold of, in order to ensure their entering the shop in fair succession. Many, however, spent their nights in the street, in vain attempts to make their entrance; and sometimes the feeble were suffocated or trampled to death in the consequent struggles. At length the Convention felt the impossibility of using fear instead of hope as the motive of production and exchange; and coercive laws were abandoned; but not without leaving on the minds of the French people a deep prejudice against the use of paper-money which has continued to the present time. (*Storch on Commerce*, p. 78. *Storch, Economic Polit.* v. 4. p. 164.)

SIGNÉES, in the law of bankruptcy, are the persons to whom the realization, management, and distribution of the estate of a bankrupt are committed, subject to the control of the court of bankruptcy. They are either official, provisional, or chosen. **SIGNÉES, OFFICIAL**, are officers of the court of bankruptcy, appointed to co-operate in town bankruptcies with the assignees chosen by the creditors, to prevent the estate from the fraud, insolvency, or negligence of the latter. They were first brought into existence by the Bankruptcy Court act, 1 & 2 Wm. IV. c. 56. They are appointed by the Lord Chancellor, to the number of thirty, and must consist of merchants, brokers, accountants, or persons who are or have been engaged in trade in the city of London or Westminster, or the parts adjacent." One official assignee must act with the others chosen by the creditors; and in this capacity he is subject to the regulation of the Chancellor and the Court of Bankruptcy. The official assignee acts alone till the creditors have made their election. All the real estate, and the rents and profits of the real estate, and the proceeds of the personal estate, vest in the official assignee alone, unless it be otherwise directed by the Court of Bankruptcy. He must deposit in the Bank of England, to the credit of the official assignee, "all stock in the public funds or in any public company, and annuities, exchequer bills, India bonds, or other public securities, and all bills, notes, and other negotiable instruments," to be subject to the order of the court. In neglect of the above rule, he is liable (as in the case of the assignees chosen by the creditors) to be charged interest on the property at the rate of 20 per cent. Official assignees must not interfere with the assignees chosen by the creditors, "in

the appointment or removal of a solicitor or attorney, or in directing the time and manner of effecting any sale of the bankrupt's estates or effects." (1 & 2 Wm. IV. c. 56, §§ 22, 23 ; 6 Geo. IV. c. 16, § 104.)

ASSIGNEES, PROVISIONAL.—These are appointed in country bankruptcies by the commissioners, to act until assignees are chosen. If the creditors choose others at the meeting set apart for the purpose, the provisional assignees must deliver up the estate to them, and are subject, on delay for ten days after notice, to forfeit £200 (6 Geo. IV. c. 16, § 45). Lord Henley observes that the choice of provisional assignees "ought not to be adopted, unless an extent is apprehended, or it is intended to carry on the trade ; and if executed without necessity it will not be allowed in the bill of costs." (*Henley's B. L.* 78.)

ASSIGNEES, CHOSEN, are the persons to whom the realization, management, and distribution of the bankrupt estate is intrusted, subject to the control of the commissioners and the court. In town bankruptcies, they act in concert with the official assignee as stated above. When the commissioners used to advertise three public meetings for the bankrupt to surrender and conform, the assignees were chosen at the second ; and the number being limited to two by 1 & 2 Wm. IV. c. 56, § 20, the choice takes place at the first. The election is decided by a majority of the creditors who have proved to the amount of £10 and upwards. Votes may be given by authority of letter of attorney on proof of the execution, either by affidavit before a Master in Chancery, or parole oath before the commissioners ; and, in the case of the creditor residing out of England, by oath before a magistrate duly attested by a notary-public, British minister, or consul (6 Geo. IV. c. 16, § 61). The first duty of the assignees is to satisfy themselves that the bankruptcy is valid, and to this end they are entitled to all serviceable information from the petitioning creditor. Where there are ascertained defects, the assignees may apply to have the bankruptcy superseded, but such applications are received with jealousy. By 1 & 2 Wm. IV. c. 56, § 22, a considerable portion of the powers and duties of the chosen assignees is transferred to the official assignees in town bankruptcies ; in country bankruptcies they still subsist as defined by 6 Geo. IV. c. 16. By that act (§ 101) they must keep an account in which is entered all property received from, and all payments made to account of, the bankrupt estate, to be open to the inspection of the creditors at all reasonable times. The commissioners may at any time summon assignees before them, and require them to produce all books, papers, deeds, writings, and other documents relating to the bankruptcy, in their possession, and may enforce their order by warrant and imprisonment if necessary. The majority at the meeting for choosing assignees may determine how and where the money received from time to time is to be deposited, and on their not so determining, the commissioners are to direct. No money is to be paid into the hands of any commissioner, or the solicitor of the bankruptcy, or of any company in which a commissioner, an assignee, or the solicitor is interested (§ 102). Commissioners may direct money to be invested in exchequer bills, and how such exchequer bills are to be administered (§ 103) ; and any assignee retaining in his own hands, or employing for his own benefit, money to the extent of £100, or countenancing any other assignee in doing so, or neglecting when directed to invest money in exchequer bills, becomes chargeable with 20 per cent. interest on the amount during the period of misapplication (§ 104). If an assignee, being debtor to a bankrupt estate for money so misapplied, become bankrupt, his certificate can only have the effect of freeing his person from imprisonment, but his future effects (tools of trade, and necessary household goods, and wearing apparel of himself and family excepted) remain liable for the debt with interest (§ 105). Assignees are entitled to charge expenses necessarily disbursed on the bankruptcy. "As, on the one hand, they may not devolve upon an accountant duties which they are themselves competent to discharge, so, on the other hand, if they cannot do their duty to the creditors without calling in the aid of an accountant, they are justified in calling in such aid" (*Henley's B. L.* 213). Where an assignee is an accountant, he is not entitled to charge for business done in that capacity. A majority of the assignees choose the solicitor of the bankruptcy, who ought not either to be one of their number, or the private agent of the bankrupt. The assignees are liable to him for reimbursement and remuneration. Assignees, commissioners, and the solicitor are alike incapacitated from being purchasers of any part of the bankrupt estate, or of dividends. Assignees may, with approbation of the Subdivision Court, appoint the bankrupt to superintend the management of the estate, or to carry on the trade for the behoof of the creditors (1 & 2 Wm. IV. c. 56, § 35). At the meeting for the last examination of the bankrupt, the commissioners appoint a public meeting not less than four months after the date of the

list, and not more than six months after that of the meeting (of which twenty-one days' notice must be given in the Gazette), to audit the accounts of the assignees, who must deliver a state on oath of all monies received by them, and when and on what account the same have been employed, and the commissioners examining the accounts must ascertain what balances have been in hand from time to time, and whether any sum appearing in hand ought to be retained. The assignees may be examined on oath touching the truth of the accounts (6 Geo. IV. c. 16, § 106). The Court of Review has power to remove any assignee without appeal (1 & 2 Wm. IV. c. 56, § 36). Assignees are of the nature of trustees, each is responsible only for his own acts, and there is contribution between them to reimburse an assignee for payments occasioned by their joint acts.

Vesting and Disposal of Bankrupt Estate.—Previously to the Bankrupts' Court Act the estate and effects of the bankrupt were assigned, with the exception noticed below, by the commissioners acting in the commission. By 1 & 2 Wm. IV. c. 56, §§ 25, 26, all the bankrupt's personal estate, and all his real estate in the united kingdom and the colonies, vests in the assignees by their appointment, without any deed of conveyance. When, according to the laws of the place where the real property is situated, a conveyance requires to be recorded, the certificate of the appointment of the assignees is registered (§ 27). The above provisions refer to those species of property which, by 6 Geo. IV. c. 16, were appointed to be assigned by the commissioners. From this method of disposal estates tail in England and Ireland, and copyholds, were excepted, the commissioners being authorized to sell them for the benefit of the creditors (§§ 65, 68), and by the Fine and Recovery Act, 3 & 4 Wm. IV. c. 74, the disposal of estates tail by the commissioners is facilitated. By 6 Geo. IV. c. 16, § 77, all powers vested in the bankrupt which he might execute for his own benefit (except the right of nomination to any ecclesiastical benefice) may be executed by the assignees for behoof of the creditors. Where the bankrupt is invested with property in trust for the use of others, the court, on petition, will direct the assignees to transfer the same to proper persons for behoof of those interested (§ 79). Where the bankrupt holds any government stock, funds, or annuities, or the stock of any public company in the United Kingdom, the commissioners may in writing direct the persons whose consent is necessary to that end, to transfer the same to the name of the assignees, and those acting in virtue of such direction are indemnified (§ 80). Where the bankrupt has pledged property or deposited deeds subject to redemption, the assignees may, before the time of performance, fulfil the condition of redemption, as completely as the bankrupt might have done, and may dispose of the property recovered, in the usual manner (§ 70). "If any bankrupt, being at the time insolvent, shall (except upon the marriage of any of his children, or for some valuable consideration) have conveyed, assigned, or transferred to any of his children, or any other person, any hereditaments, offices, fees, annuities, leases, goods, or chattels, or have delivered or made over to any such person any bills, bonds, notes, or other securities, or have transferred his debts to any other person or persons, or into any other person's name, the commissioners shall have power to sell and dispose of the same as aforesaid; and every such sale shall be valid against the bankrupt, and such children and persons as aforesaid, and against all persons claiming under him" (§ 73).

By § 72, "If any bankrupt, at the time he becomes bankrupt, shall, by the consent and permission of the true owner thereof, have in his possession, order, or disposition any goods or chattels, whereof he was reputed owner, or whereof he had taken upon him the sale, alteration, or disposition as owner, the commissioners shall have power to sell and dispose of the same for the benefit of the creditors under the commission: Provided that nothing herein contained shall invalidate or affect any transfer or assignment of any ship or vessel, or any share thereof, made as a security for any debt or debts, either by way of mortgage or assignment, duly registered according to the provisions of an act of parliament made in the fourth year of his present majesty, intituled *An Act for the Registering of Vessels*." The act alluded to is 4 Geo. IV. c. 41, for which 3 & 4 Wm. IV. c. 55 (see § 43) is now substituted. [REGISTRY.] The property to which the foregoing enactment applies must come within the definition of personal goods and chattels, such as ships, furniture, utensils in trade, stock, bills of exchange, policies of insurance, shares in public companies and in newspapers, &c. "Chattel interests in lands, houses, and things affixed to the freehold, or shares in a company seised of real estate, are not within the statute" (*Henley's B. L.* 270). The provision only applies to property in hand at the time of the act of bankruptcy, and not to goods received before or obtained after it. It has been laid down, that a removal on the day of the

bankruptcy does not take the property out of the statute, and the same was held where goods were fraudulently removed on the day before (*Darby v. Smith*, 1798, 8 *T. R.* 82). The possession must be with "consent and permission" of the owner, and so the property of infants incapable of consenting, or fraudulently obtained, is not within the statute. The interim possession by a carrier through whom the bankrupt has sent goods, does not alter the reputed ownership, but that of a pawnee holding in pledge does. Property deposited for a particular purpose is not held within the statute; thus, bills lodged with a banker for the purpose of obtaining payment do not vest, but it is otherwise where they are not remitted for a particular purpose, but to be discounted and credited to the remitter. Goods in the hands of a factor do not pass to his assignees, but those on sale and return are within the statute. The question of reputed ownership is generally a question of fact for the consideration of a jury.

Among the other effects of the bankrupt, which vest in the assignees are, 1st, Property in right of his wife, unless she hold it by the custom of London as a sole trader, or it is settled to her separate use. 2d, Choses in action, including whatever right existed in the bankrupt to sue for performance of beneficial contracts, and for remedy of wrongs committed as against his property, but not of personal wrongs. By 6 Geo. IV. c. 16, § 76, where the bankrupt has entered on an agreement to purchase an estate or interest in land, the vender may require the assignees to choose whether they shall perform the agreement or not, and if they do not make their election, he may apply to the court for restoration of the property. 3d, Advowsons, which may be sold for behoof of the creditors, but if a vacancy occur before the sale, the bankrupt presents. 4th, Leases. On this subject we take the following remarks from Mr Smith: "The assignees are not bound to accept a term for years belonging to the bankrupt; for it might be burdened with rent and covenants beyond its value, and prove a loss instead of a benefit to the creditors. Such an estate, till they have done some act to manifest their acceptance of it, remains in the bankrupt, subject to the right of the assignees to adopt it. It has frequently become a question, what acts will amount to such an adoption. The general rule is, that any intermeddling with the estate, in the capacity of owner, amounts to an adoption of it; but not a mere experiment to ascertain its value. Thus, where the assignees entered and kept possession of the premises for three months, they were held to have adopted the lease, though the bankrupt's effects were on the premises during that period, and immediately after the sale they delivered up the key. But they were held not to have adopted the term, by advertising it for sale, without stating it to belong to them, nor by or for whom it was to be sold, but only that there was a saleable term; for that might be a mere experiment to ascertain its value.

"The lease remaining in the bankrupt till the assignees' election, he would, in the mean while, and afterwards, in case of their refusing it, be liable to rent, and would be chargeable on his express covenants, whether the assignees accepted the lease or declined it. However, by st. 1 Geo. IV. c. 16, § 75,

"A bankrupt entitled to any lease or agreement for a lease, if the assignees accept the same, shall not be liable to pay any rent accruing after the date of the commission, or to be sued in respect of any subsequent non-observance or non-performance of the conditions, covenants, or agreements therein contained; and if the assignees decline the same, shall not be liable as aforesaid, in case he deliver up such lease or agreement to the lessor or such person agreeing to grant a lease, within fourteen days after he shall have had notice that the assignees shall have declined as aforesaid; and if the assignees shall not (upon being thereto required) elect whether they will accept or decline such lease or agreement for a lease, the lessor or person so agreeing as aforesaid, or any person entitled under such lessor or person so agreeing, shall be entitled to apply by petition to the Lord Chancellor, who may order them so to elect and to deliver up such lease or agreement, in case they shall decline the same, and the possession of the premises, or may make such other order therein as he shall think fit."

"This section applies only to the case of a lessee, not to that of the assignee of a lessee. And though the bankrupt, complying with the provisions of the act, cannot be sued for any breach of covenant subsequent to the date of the fiat, and is discharged from his express covenants contained in the lease, although he should come in again as the assignee of his own assignees; yet a surety for the performance of those covenants is liable for breaches accruing between the date of the commission and the delivery up of the lease. The assignees, as they may if they please repudiate the lease, so, if they do, are not allowed to take advantage of any covenants contained in it. If they accept it, they may, like ordinary assignees,

exonerate themselves from future liability by assigning it over even to an insolvent person" (*Smith's Mercantile L.* 567-569).

By 6 Geo. IV. c. 16, § 88, the assignees, with consent of a majority in value of the creditors assembled at a general meeting called on twenty-one days' notice in the Gazette, may compound with any debtor to the estate, or submit any dispute to arbiters to be chosen by the assignees and the majority in value on the one hand, and the person with whom they are in dispute on the other; "provided that if one-third in value or upwards of such creditors shall not attend at any such meeting (whereof such notice shall have been given as aforesaid), the assignees shall have power, with the consent of the commissioners, testified in writing under their hands, to do any of the matters aforesaid." By 1 & 2 Wm. IV. c. 56, § 43, the arbitration may be made a rule of court. [ARBITRATION.]

It is the duty of the assignees to bring the estate recovered to sale without unnecessary delay; and with this branch of management, the official assignee is prohibited from interfering (1 & 2 Wm. IV. c. 56, § 23). It is a general rule that the creditors not only as a body, but as individuals, are entitled to insist on a speedy realization of the property; and if assignees delay to make sale, though in opposition only to one individual, they will incur responsibility. However advantageous it may appear, a creditor cannot be dragged into a speculation which may render the returns from the estate future and uncertain, and it has been laid down that the assignees under a separate bankruptcy against one partner, cannot engage in a new adventure with the solvent partner, without the consent of every one interested in the estate (*Chancellor's opinion, Crawshay v. Collins*, 1808, 15 *Vesey*, 228).

For the auditing of assignees' accounts and the payment of dividends, see BANKRUPTCY.

The Court of Review has power to remove assignees on its own discretion, and without appeal (1 & 2 Wm. IV. c. 56, § 36). Assignees have been removed for purchasing part of the bankrupt estate, and for permanently residing beyond the jurisdiction of the court. On removal of an assignee the rights he had acquired vest in his successor (*Henley's Bankrupt L.* 207-255. *Smith's Mercantile L.* 547-590. Statutes as quoted). [ACT OF BANKRUPTCY. BANKRUPTCY. PROOF. CERTIFICATE.]

IN SCOTLAND the duties which correspond with those of the assignee in England, devolve on the trustee. [SEQUESTRATION. TRUSTEE.]

IN IRELAND, by 6 & 7 Wm. IV. c. 14, the law as to assignees in bankruptcy, is framed on the model of that of England,—there are, however, no official assignees, and therefore the rules applicable to the country bankruptcies only apply. The various sections embracing the subject are as follows: By § 72 assignees are to be chosen at the first sitting appointed by the commissioners; and §§ 74-77 provide for the vesting of the bankrupt's estate in the assignees, without conveyance. By § 78 a certificate of the appointment of assignees must be entered in the office for enrolment of matters relating to bankruptcy. By § 79 the commissioners are entitled to dispose of estates tail, in conformity with the provisions of the Fine and Recovery Act (3 & 4 Wm. IV. c. 74). Section 86 provides for goods in the reputed ownership of the bankrupt passing to assignees, with the exception of registered securities on ships (for which 4 Geo. IV. c. 41, is referred to instead of 3 & 4 Wm. IV. c. 55), and §§ 89-91, 94, provide as to leases, inchoate agreements to purchase real property, powers, and stock, vested in the bankrupt, as detailed above with regard to England. Section 102 empowers assignees with consent of creditors (or if one-third in value do not attend the meeting, with consent of commissioner) to compound debts, and submit disputes to arbitration. By § 121 assignees are to keep a book of accounts of the bankrupt's estate, and commissioners are empowered to summon assignees, and enforce production of documents; and by § 120-123, the vesting of money according to direction of majority of value of the creditors, and purchase of Exchequer bills by direction of commissioner are enjoined. Section 124 provides for auditing assignees' accounts.

ASSIGNMENT, *Eng. & Ir.*; ASSIGNATION, *Scot.* is an agreement, by which a right or interest in one person is transferred to another. The granter is called cedent or assigner, the receiver assign or assignee. In England an assignment is employed in real property, generally for the purpose of transferring temporary or defeasible estates, such as estates for life or for years; and it differs from a lease in as far as it transfers the whole interest of the granter. In Scotland, in real property transactions, imperfect titles containing authority to the holder to complete them, are transferred to purchasers and others, by assignation, to enable them to make good their titles, and the portions to run of leases are common subjects of assignation.

In moveable property, when the assignment conveys property in the possession of the assigner, the contract comes properly under the head of "Sale." In its more limited acceptation, however, the term is generally used to express the conveyance of a *right* which the assigner has to the subject of the transaction. In this manner debts, contracts, and all those rights which in England are called *choses in action*, and by the civilians *jura ad rem*, are the proper subjects of assignment. Among the most ordinary assignments is the indorsation of bills of exchange, bills of lading, and such like. By an old rule of the common law of England, a *chose in action* could not be conveyed, because such conveyance led directly to "maintenance," or that offence which arises from the money of one person being employed in prosecuting the suit of another. This rule still holds good in the common law courts, with some exceptions, among which are assignments of bills by indorsation. To enable assignments of bonds to be supported in those courts, a power of attorney authorizing the assignee to sue in name of the assigner is employed, and the courts so far aid the transaction, that if the obligee in such a document has paid the contents to the original obligor after notice of the assignment, he cannot plead the payment in a suit at the instance of the assignee. Courts of equity have always given full force to assignments (*Blackstone's Com.* ii. 442).

IN SCOTLAND, intimation of an assignation to the obligee is necessary, not only to give a preference to the assignee over one acquiring a posterior title, and to prevent the obligee from fulfilling his contract with the original obligor, but for the completion of the transference. The regular form of notice is made by the assignee or his procurator appearing before the obligee, or repairing to his dwelling house in presence of a notary and two witnesses, and reading the assignation or leaving a schedule of it. If the obligee is not in Scotland, the intimation must be made at the Register House. The narrative of the giving notice is reduced to a probative instrument by the notary. Professor Bell observes, that "an assignation [in England] of a debt due in Scotland, produced in a competition with creditors arresting the fund, will be ineffectual without intimation or something equivalent." A formal notice, attested by a notary public, is not always necessary,—equivalents are admitted. Thus an action, or any kind of legal execution, raised by the assignee against the debtor, is effectual notice. A bill accepted, or even protested for non-acceptance, is held sufficient notice of an assignation of a money-debt; and an acknowledgment of notice in the debtor's handwriting on the assignation, or in a paper apart, is sufficient. A partial payment will prove notice in so far as respects the debtor. Some transferences of property, which take place in the course of the administration of justice, or by the fixed rules of the law, are called assignations, as adjudications of real property, marriage in the case of the property of a female, &c. These do not require notice, but the debtor will be justified in paying to the original creditor until he is acquainted with the event. A mere document of debt may be transferred by indorsation; but a special assignation is necessary to convey the diligence that may have followed on it. Diligence (or execution) taken out in the name of the cedent, cannot be used in that of the assignee without judicial warrant (*Erskine's Inst.* b. iii. tit. 5. *Bell's Com.* ii. 16-20).

ASSIZE, an ordinance or decree regulating the price of bread, ale, fuel, or other common necessary of life. Bread was formerly rated according to the price of wheat. Assizes were in ancient times very common; and the power to set one on some articles still subsists, though it is seldom or never acted upon. The inutility of such regulations is now too obvious to require comment.

ASSURANCE. [INSURANCE ON LIVES.]

ATTACHMENT, in its general sense, is a writ issued by a court of justice on bare suggestion, or on the judges' own knowledge, against a party who has committed a contempt. *Foreign attachment*, by the custom of the city of London, is a process by which property in the hands of some party, other than the debtor, may be attached for payment of the debt. It may proceed from the court of the Mayor or of the Sheriff, but the former is the more advantageous. A debt may be attached in the hands of the garnishee (literally the person warned, viz. he who has the property of the debtor in his hands) before it is due, but cannot be levied till the term of payment. The original debtor must be summoned and have notice. Attachment cannot proceed on goods in the hands of a carrier (*Comyns' Digest*, v. *Attachment*).

ATTORNEY, POWER OF. [LETTER OF ATTORNEY.]

AUCTION, SALE BY, is the public sale of property, to whatever person present will give the highest price for it. By the usual form in this country, the property is set up at a minimum, and intending purchasers bid above each other, until no one will bid more. By the form commonly called Dutch auction, a price higher

that expected is named at the commencement, and gradually reduced until one consents to purchase.

In England, sales by auction come within the statute of frauds, 29 Ch. II. c. 3, and therefore, when the price of any article is £10 or upwards, the contract is not good unless the buyer take delivery of a part, or receive earnest, or a memorandum in writing be signed by the parties or their agents. In auctions, the auctioneer is from the commencement agent for the vendor, and, by bidding, the proposing purchaser is held also to constitute him his agent. It will be sufficient conformity with the statute of frauds, that the auctioneer write the initials of the purchaser's name opposite to the lot in the catalogue, if the conditions of the sale be annexed to the catalogue, or clearly referred to. An auctioneer, while acting as such, cannot purchase the property he is employed to sell. He has a lien for charges and auction duty, first on the goods, and when they have been delivered, on the price. An auctioneer is liable for deterioration of the goods through his negligence, but not for unavoidable casualties. [BAILMENT.] It is his duty to sell to the highest bidder, but no action will lie against him for not obtaining the price he was instructed to obtain, though action will lie for not putting up at the price fixed by the vendor. The fall of the hammer decides the completion of the contract (unless some other criterion be adopted, such as the running of a sandglass, or the burning of a candle), and until that event occurs a bidder may retract. It is said that in England, where the sum bid is £10 or upwards, and so comes within the statute of frauds, he may resile before the writing is completed. On the part of the exposor the sale must be conducted without the adoption of undue means for raising the price, and so that the lots may fall to the highest real bidder among intending purchasers. Fictitious bidding, by means of persons termed "white bonnets," is unlawful, and vitiates the sale. The clause of the act 42 Geo. III. c. 93, referred to below, countenances buying in by the exposor or his agent, provided "the fairness and reality of the transaction" be "certified." If due notice is given of such intention, therefore, the owner may bid. If the sale be advertised, however, as "without reserve," it would appear that he cannot do so. Fraudulent description or concealment will vitiate the transaction; it is a common fraud to mix effects (such as pictures and other works of art) with collections which have acquired a reputation from the judgment of their possessor, and to sell the whole as having been his. Such a fraud will vitiate the transaction. On the other hand, bidders must not combine, or use other means to prevent the sums offered from rising to the extent they would reach were each person besides the final purchaser freely to bid the utmost he intends to give. Thus the contract was voided where a purchaser declared to the people around him that he had a claim on the property exposed (*Fuller v. Abrahams*, 1821; 3 *Brod. & Bing.* 116). In Scotland, three persons having been commissioned to bid for property at a sale, agreed that the one who had the highest commission should purchase at the upset price, and divide the difference among his associates; besides the reparation for fraud, the sale was found void (*Murray v. Macwhan*, 1st March 1783, *M.* 9567). Where there are printed conditions of sale, they cannot be altered by the verbal statement of the auctioneer. It is sufficient publication of the conditions, that they are posted on the auctioneer's box, or on the wall of the room, or are attached to catalogues circulated among the frequenters. (*Babington's Law of Auctions. Sugden's Law of Vendors*, 13-45. *Morton on Vendors and Purchasers*, 148-165.)

AUCTIONEERS.—Auctions must be conducted by a licensed auctioneer, with a few exceptions which provide generally for the sale of property seized in execution of debt. The cost of the license is £5, 10s., and it must be renewed annually on the 5th July. If an auctioneer sell any excisable commodity, he must also have an excise license, unless the article be sold on the *entered* premises of the seller, and for his benefit, or be a foreign commodity sold in the warehouse in one entire cask or package to one person or firm. (6 Geo. IV. c. 81, §§ 8, 12.) He must also give security to deliver to the excise, within a certain period, a true account of every sale, and to pay the auction-duty thereon; for which purpose, twenty-eight days are allowed within the London district, and six weeks every where else. He is further bound, under penalties, to deliver in a detailed catalogue of the articles to be offered for sale, attested by himself or clerk: if the sale is to be held within the London district, two days' notice thereof must be given in writing at the head office; elsewhere, three days' notice must be given to the collector at the nearest excise-office. The auctioneer is liable for the amount of duty, but may recover the same from the vendor. It is commonly stipulated that the buyer shall pay the duty in addition to the sums bid by him. The number of licenses taken out in the year ending January 5, 1837, was, in England, 3,041; in Scotland, 389; in Ireland, 262; total, 3692.

AUCTION-DUTIES.—Household furniture, pictures, books, horses, carriages, and the like kinds of personal property, pay 12½ pence per £ sterling, of the purchase-money: Freehold, copyhold, or leasehold estates, whether in land or buildings; shares in the joint-stock of corporate or chartered companies; reversionary interest in any of the public funds; plate or jewels; and ships or vessels pay 7½ pence per £ sterling: Sheep's wool, the growth of the United Kingdom, sold for the

benefit of the growers or first purchasers, $2\frac{1}{4}$ pence per £ sterling. *Exemptions.*—These are very numerous; the principal are the following:—Piece goods wove or fabricated in this kingdom, which shall be sold entire in the piece or quantity, as taken from the loom, and in lots of the price of £20 and upwards, and so as the same be sold in no other than entered places, and openly exposed at such sale (29 Geo. III. c. 63, §§ 1, 2); all grain, flour, meal, beef, pork, hams, bacon, cheese and butter, imported into Great Britain, if sold on account of the importer within twelve months (41 Geo. III. c. 91, § 8); produce of the whale and seal fisheries; elephants' teeth, palm-oil, drugs, and other articles for the use of dyers, mahogany and other woods used by cabinet-makers, imported from Africa or any British settlement, and merchandise brought from any British colony in America, the same being the produce of such colony, if sold by the original importer within twelve months from the time of importation (32 Geo. III. c. 41; 42 Geo. III. c. 93, § 3); property sold by order of the Court of Chancery or Exchequer: sales by the East India, or Hudson's Bay Company: sales by order of the Commissioners of Customs, Excise, or other government boards: sales by the Sheriff for the benefit of creditors in execution of judgment, and bankrupts' effects sold by assignees or trustees; goods damaged by fire, or wrecked or stranded, which are sold for the benefit of insurers: wood, coppice, the produce of mines or quarries, cattle, corn, stock, or produce of land, while they continue on the lands producing the same (19 Geo. III. c. 86, §§ 13, 14). By 42 Geo. III. c. 93, § 1, an allowance is made of the unpaid duty in the case of goods offered to sale by auction, which have been bought in by the exposor or his agent, on notice in writing having been given to the auctioneer; the notice being "verified upon the oath of the auctioneer, and also the fairness and reality of the transaction, to the best of his knowledge and belief."

The net revenue derived from auction-duties in the year ended January 5, 1840, was in England £263,567; in Scotland, £21,014; in Ireland, £13,824; total, £298,405.

AUDIT, an examination of accounts by persons duly appointed.

AUNE, a French cloth measure; the aune *usuelle* = $47\frac{1}{4}$ Imp. inches; the old aune of Paris = $46\frac{1}{4}$ Imp. inches.

AUSTRALIA. [NEW SOUTH WALES. SOUTHERN AUSTRALIA. TASMANIA. WESTERN AUSTRALIA.]

AUSTRIA, an empire situated betwixt lat. 42° and 51° N., and long. 8° and 26° E.; and bounded N. by Saxony, Prussia, Poland, and Russia; W. by Bavaria, Switzerland, and Piedmont; S. by Tuscany, the Ecclesiastical States, the Adriatic, and Turkey; E. by Turkey and Russia. Area, 255,226 square miles. Population, according to the latest returns, Austria Proper, 2,113,915; Styria, 859,841; Tyrol, 786,543; Bohemia, 3,897,076; Moravia and Austrian Silesia, 2,066,218; Illyria, 1,145,445; Galicia or Austrian Poland, 4,548,534; Hungary, Slavonia, and Croatia, 11,536,431; Transylvania, 2,034,385; Dalmatia, 309,412; Venetian Lombardy, 4,332,581; total, 33,630,381. Capital, Vienna, pop. 330,000. The government is monarchical; in Hungary, the nation shares the legislative, and even the executive power, with the emperor; and the Tyrolese possess to a certain extent the same privileges. In other parts there are provincial diets, but they are consulted only as to the mode of raising the taxes; so that his imperial majesty is in a great measure an unlimited sovereign.

The Austrian empire being generally mountainous, the plains, which occur chiefly in Hungary and Galicia, occupy a comparatively small part of the surface. In point of climate, the whole may be divided into three regions. The southern extends from lat. 42° to 46° N., where the depth of winter resembles the month of March in northern countries; and where are found the olive, myrtle, vine, fig-tree, and even pomegranate. In the middle region, from lat. 46° to 49° N., the olive is not found, but vines and maize thrive in favourable situations; winter lasts from 3 to 4 months; summer is warm, but variable; and the air is salubrious, except in the vicinity of the Hungarian marshes. The northern region extends from lat. 49° to 51° N., where the winter is severe, and lasts fully 5 months; vines and maize are no longer to be met with, and even wheat requires a choice of situation. The soil, though of endless variety, is in general fertile; but in agriculture, Austria has not kept pace with other European states. Great pains have, however, been lately taken to improve the land, and about 4-5ths of the entire area have been brought into use. The arable portion forms less than one half; the forests and woodlands more than a third; the vineyards about 1-50th; and the meadow and grazing ground, each about 1-11th of the available surface. The country abounds in minerals. The mines of gold and silver in Hungary and Transylvania, and of quicksilver at Idria in Carniola, are the richest in Europe; lead and copper are produced in considerable quantities; and the supply of iron is almost inexhaustible, though the quantity raised is limited by the dearness of fuel. Tin, calamine, zinc, cobalt, antimony, chrome, bismuth, manganese, also exist; and indeed nearly every metal except platinum, is to be found in different parts of the empire. Salt exists in abundance: the celebrated mine of Wiliczka, in Galicia, yields annually 35,000 tons; and the total yearly produce of the empire is nearly equal to the consumption, as its importation is prohibited. Vitriol, alum, soda, sulphur, and saltpetre, are likewise found in great quantities. Scarcely a province is deficient in coal; but the quantity raised is trifling, owing to the abundance of fuel obtained from the forests. Marble and a variety of precious stones also occur. The silk produced yearly is estimated at upwards of 7,000,000 lbs., a great part of which is exported from the Italian provinces, where it is chiefly raised. The produce of the vine, though far short of what it might be rendered, is a source of considerable wealth; and a large quantity is exported, chiefly to the adjoining states; the finest is the celebrated Tokay, made at Zemplin, in Hungary. Olive oil is produced in large quantities in the Italian provinces. Besides these articles, tobacco, hops, hemp, flax, and potash, are produced in sufficient quantity to afford a surplus for exportation.

The manufactures of Austria are considerable, though by no means proportionate to its natural resources. Those of linen and woollen in Moravia and Bohemia have long been celebrated, and

duction of Jacquard's machinery has produced a rapid extension of the silk manufacture, in Lower Enns, at Vienna, and in the Italian provinces. The cotton manufacture employs many hands, but it is not in a prosperous condition, and is indeed entirely supported by a recent high rate of duty on foreign articles. The other manufactures are chiefly those of paper, paper, and glass; the last chiefly in Bohemia. The proportion of the manufactures to the agricultural, is said to be as one to four.

Internal commerce, though burdened in some branches by government monopolies, and by heavy duties of each separate state, is still very considerable. The communication between distant places is facilitated by navigable rivers, and generally by good roads, on which the government bestows great attention. Of the rivers, the most important are the Adige, Po, and above all the Danube, which, with its tributaries, pervades the whole empire, crossing, in its eastern boundary at about 500 miles from the sea. An important aspect has been given to the navigation of the Danube by the introduction of steam-vessels. This was first effected in 1828, by two English shipbuilders, Andrews and Pritchard. A company has since been formed, with a charter for 25 years, to prosecute further this great object; and it is now that there are now 9 steam-boats on the river, forming a chain of communication between Vienna and Constantinople. This navigation is throughout rather difficult, owing to shoals and rocks, and at Orsova, it is altogether impeded by rocks. A further disadvantage occurs from the fact, that the mouths of the river are now in the possession of Russia, who is said to view with jealousy the extension of this navigation. With the view of keeping the communication open, it has been proposed to cut a canal from the nearest point to Kustendji, on the Black Sea.

Vienna is the great storehouse of the internal trade of the empire; the other commercial towns are Prague, Pesth, Cronstadt, Lemberg, Brody, Botzen, Milan, Bergamo, Brescia, Semlin, and Znaïm. Austria has kept aloof from the Prussian commercial league; and its chief foreign trade by the land frontier is with Turkey, the lesser German States, and Switzerland.

The maritime commerce of Austria is comparatively inconsiderable, owing partly to its small extent of seacoast, but much more to the monopolies and restrictions of the government. The export of the precious metals, ashes, raw flax, and hemp with the roots attached, is prohibited.

Articles, such as salt, gunpowder, and tobacco, are monopolized by the government; and the importation is either forbidden, except to government contractors, or loaded with high duties.

Prohibitory duties of a prohibitory character are also imposed on most woven fabrics. The duty on cotton manufactures of all kinds (exclusive of twist) is 60 per cent. *ad valorem*; on woollens and fine linens are the same; on silks, £1 per lb.; on linens, from 5s. to 12s. per lb. The duties on coffee, sugar, and many other tropical productions, are likewise very high. In consequence of these duties, a very large proportion of the trade is carried on by smuggling, a practice which is facilitated with facility from the nature of the frontier, and by the corruption of the custom-house officers. According to recent statements, however, there are grounds for expecting that this illicit system will be soon either abolished or greatly relaxed.

In 1834, the registered merchant shipping of the empire consisted of 516 vessels of 123,890 tons; this was exclusive of the smaller class of coasters. The chief ports are Venice, Malamocco, Chioggia, and Chioggia, in the Venetian territories; Trieste, Fiume, Rovigno, Capo-d'Istria, Pola, in Illyria; and Ragusa, Cattaro, Zara, Sebenico, and Spalatro, in Dalmatia. The maritime trade is, however, almost wholly engrossed by Trieste and Venice, which are both free ports.

Trieste is situated in 45° 38' N., and 13° 46' E., at the N.E. extremity of the Adriatic, pop. 51,346. It possesses a commodious harbour, and being a free port, and almost the only outlet for the South of Italy, many, Illyria, and part of the Slavonian provinces, its commerce is very extensive. Exports are wine, hardware, beads, copper, wheat, rice, currants, raisins, hemp, iron, paper, rags, Russia leather, shumac, silk, steel, tobacco, timber, musical instruments, and other articles. Imports—chiefly sugar, cotton-wool, coffee, olive oil, cotton and woollen manufactures: the other imports, comparatively of small amount, are almonds, hides, wax, wool, valonia, gums, wheat, barley, and hemp. Of these imports, a very considerable proportion is forwarded to other parts, particularly to Venice. In 1836, no fewer than 1095 vessels engaged in foreign trade entered the port, and the total number of vessels entered, including coasters, was 8489, of 422,743 tons. The value of the trade with different places, in the same year, was as follows:—

Countries.	Imports.	Exports.	Countries.	Imports.	Exports.
Britain.....	£598,270	£558,970	Roman States.....	£124,500	£254,850
France.....	290,290	32,810	Sicily.....	630,220	101,670
Sweden and Norway	27,500	.....	Ionian Islands.....	39,370	72,980
Denmark.....	400	3,440	Greece.....	147,770	137,320
Prussia.....	.....	17,360	Turkey.....	990,150	680,856
Spain.....	15,100	56,370	Egypt.....	736,380	130,550
Portugal.....	66,760	48,100	Barbary.....	5,410	15,410
Spain.....	236,500	69,850	United States.....	319,155	171,850
France.....	88,920	19,550	Brazil.....	854,120	15,790
Spain.....	25,845	7,060	South America.....	205,110	14,430
Spain.....	40,210	40,440	Austrian Ports.....	838,260	2,033,479
Spain.....	37,150	53,200	Total....	£6,315,390	£4,536,245

The commerce of Trieste is rapidly increasing, and between the years 1826 and 1838 it had nearly doubled in amount. This arose chiefly from a more extended intercourse with Turkey, South America (especially Brazil), Britain, and the United States. The exports to Britain were more than doubled in the four years 1833-36; but little difference has occurred in the imports. About 140 vessels arrive annually.

Trieste is a magnificent city and port, standing near the N. extremity of the Adriatic, on a number of islands.

of small islands separated from each other by canals, and from the mainland by narrow shallows, pop. 103,000. Its commercial greatness dates from the middle ages; but since the discovery of the passage to India by the Cape of Good Hope, it has gradually diminished, and at present, although a free port, its trade is inconsiderable, compared with that of Trieste; being confined chiefly to the receiving and transmitting of goods through the medium of that city. *Exports*—silk, fruit, grain, woollens, paper, cheese, &c. *Imports*—chiefly olive oil, cotton, coffee, and sugar; with dried fish, wheat, linseed, indigo, iron, and other articles of smaller value. In 1836, the total value of the imports was £1,081,971; of which, £592,096, were brought *via* Trieste. About 30 British vessels arrive annually.

In 1835, the exports from *Fiume* amounted to £247,112, and from *Ragusa* to £45,936, consisting chiefly of goods sent coastwise.

MEASURES, WEIGHTS, MONEY, AND FINANCES.

VIENNA AND TRIESTE.

Measures and Weights.—The klafter of 6 Vienna feet = 6.23 imp. feet; the Vienna ell = 30.6 imp. inches; the post mile of 4000 klaftern = 4.71, or about $4\frac{1}{2}$ imp. miles.

The Vienna joch = 6889 imp. sq. yards, and 7.03 jochs = 10 imp. acres.

The Vienna wine eimer of 70 kopfen, 40 maasses, or 4 viertels = 12.46 imp. galls: the fuder = 32 eimers; the dreyling is 30 eimers.

The corn metzen of 4 viertels or 8 achtels = 1.69 imp. bushel; and 100 metzen = $21\frac{1}{2}$ imp. quarters: 30 metzen = 1 muth.

The Vienna pound of 4 quarters, 16 ounces, or 32 loths, = 8645 troy grains; and 100 lbs. = 1 centner = $123\frac{1}{2}$ lbs. avoirdupois: 20 lbs. = 1 stone. Gold and silver are weighed by the Vienna mark = 4333 troy grains.

In *Trieste*, the woollen ell = 26.6 imp. inches; the silk ell = 25.22 imp. inches: the wine orna or eimer = 12.45 imp. galls; the barile = $144\frac{1}{2}$ imp. galls; the oil orna = 107 Vienna lbs., or 14.17 imp. galls: 100 staji of corn = $28\frac{1}{2}$ imp. quarters; but estimated commonly at 342 staji to 100 imp. qrs. In other respects same as above.

Money.—Accounts are kept in florins of 60 kreusers, each of 4 pfennings: 20 florins are coined from the Cologne mark of fine silver; hence 1 florin = 2s. 0 $\frac{1}{2}$ d. nearly, and the par of exchange with London is 9 florins 50 kr. for £1. The other silver coins are the rixdollar of 2 florins (= $1\frac{1}{2}$ German rixdollar of account), and pieces of 20, 10, 5, and 3 kreusers: The souverain d'or = 27s. 10d.; and the ducat about 9s. 5d.; there are also copper pieces of 1, $\frac{1}{2}$, and $\frac{1}{4}$ kreusers. The paper-currency consists of notes of the National Bank, and of the outstanding depreciated notes of the old Vienna State Bank, called "*Wiener-Währung*" (Vienna value), which are at a fixed discount of 60 per cent.; 100 florins specie or effective being = 250 florins *W. W.* the last are used chiefly in retail, and for wages, &c.; all large payments being made in National Bank notes or in silver.

Bills upon Vienna are generally drawn in effective; and frequently the particular coin in which they are to be paid is specified—as in 20 kreuser pieces. Usance is 14 days after acceptance; bills payable "*medio mense*" are reckoned due on the 15th; 3 days of grace are allowed, except when drawn at less than 7 days' sight or date.

The *Austrian National Bank* was instituted in 1817, with the view of restoring the money standard of the empire, which had become depreciated by the excessive issues of irredeemable paper by the Vienna bank during the war. It commenced with a capital of 100,000 shares, each of 1000 florins of that depreciated paper (the Vienna bank being then discontinued), and of 100 florins in specie. The former was converted into government bonds, bearing interest at $2\frac{1}{2}$ per cent., payable in specie, and redeemable at 50 per cent.—the treasury at same time establishing a sinking fund for their redemption. The bank, though connected with the state, is under the management of a body of directors; and its accounts are published periodically. It advances money on bills and other securities, receives deposits, and issues notes for 5, 10, 25, 100, 500, and 1000 florins, which are payable in silver on demand. Branches have been established at Trieste, Milan, Prague, and other towns throughout the empire; and according to a late statement, the price of the shares had advanced to 1385.

The *Public Revenue* of Austria, estimated at £15,000,000, is derived chiefly from taxes, rates, crown-lands, and mines. The *expenditure* is nearly the same, more than one-third being required to maintain a standing army of 270,000 men. The accounts are, however, not made public. The *national debt* is about £60,000,000; principally in bonds called "*metallics*," from their

MILAN AND VENICE.

Measures and Weights.—Since 1803, a system founded upon that of France has been used throughout the Italian provinces in all public transactions; thus 1000 atomi, 100 diti, or 10 palmi = 1 metro or metre = 39.37 imp. inches; 1000 copi, 100 pinte, or 10 mine, = 1 soma or hectolitre, = 2.751 imp. bushels; 10,000 grani, 1000 denari, 100 grossi, or 10 oncie, = 1 libbra nuova Italiana or kilogramme = 2.204 lbs. avoird. The old measures and weights are still used in private business.

In *Milan*, the braccio = 23.4 inches; 1 wine brenta = 15.72 imp. galls.; 100 corn staji = 50.2 imp. bushels; the moggio = 4.02 do.; the mark = 3627 troy grains; 59.45 lbs. grosso, or 138.78 lbs. sottile, = 100 lbs. avoird.: the rubbio of oil weighs $47\frac{1}{2}$ lbs. avoird.

In *Venice*, the woollen braccio = 26.6 inches; the silk braccio = 24.8 inches; 100 wine sechi = 237.6 imp. galls.; 100 oil miri = 335.4 imp. galls.; 100 corn staji = 220 imp. bushels; the mark = 3681 $\frac{1}{2}$ troy grains; 95.07 lbs. grosso, or 150.54 lbs. sottile = 100 lbs. avoird.

Money.—Accounts are kept in lire Austriachi of 100 centesimi, or 20 soldi; 3 lire Aus. = 1 Austrian florin; hence the lire Aus. = 8 $\frac{1}{2}$ d. sterling, nearly; and the par of exchange with London is 29 $\frac{1}{2}$ lire Aus. for £1, or as sometimes quoted, 48 $\frac{1}{2}$ d. per 6 lire Austriachi.

Formerly, accounts were kept in the lira Italiana, equal in value to the French franc. Retail transactions are conducted in lire corrente, or lire piccole. 100 lire Aus. = 87 lire It. = 113 $\frac{1}{2}$ lire corr. = 169 $\frac{1}{2}$ lire picc.: hence the lira It. = 9 $\frac{1}{2}$ d.; the lira cor. = 7 $\frac{1}{2}$ d.; the lira picc. = 4 $\frac{1}{2}$ d. The circulating medium is composed chiefly of lire, and their halves, &c., and of Austrian currency. The gold doppia of Milan = 15s. 7 $\frac{1}{2}$ d.; the sequin = 9s. 5d.; and the scudo of 6 lire corrente = 3s. 7 $\frac{1}{2}$ d.

Bills are usually drawn in London upon Milan and Venice, at 90 days after date. No days of grace can be claimed at Milan; but the holder may allow 3 days. No days of grace are allowed at Venice.

dividends being payable in specie; the remainder consists of such obligations in depreciated paper *W. W.* as have not yet been bought up, or converted by the government. The prices of Austrian stocks as recently quoted were:—5 per cents. 105; 4 per cents. 100; 3 per cents. 75½. The only debt owing by Austria in England is £2,500,000, raised by a loan contracted in 1823, with Mr Rothschild, at 82 per cent., in order to pay off a debt incurred to Great Britain during the war. The bonds are for £100 each, with coupons for the interest, at 5 per cent. payable in London half yearly, on 1st May and 1st November; they are transferable without registration, and are seldom offered for sale, being esteemed a safe and desirable investment.

ABSTRACT OF TREATY OF COMMERCE BETWEEN GREAT BRITAIN AND AUSTRIA, 3D JULY 1838.

1. The vessels of the two powers shall pay the same duties in their respective harbours, as the national vessels of each power. 2. All the productions of Austria, and which may be imported into the harbours of the Queen of England, as also all British productions which may be imported into the harbours of the Emperor, shall enjoy the same privileges; and *vice versa*. 3. Articles, not the produce of the dominions of the two powers, imported from the harbours of Austria into British possessions, pay the same duties as if imported in British vessels. 4. All Austrian vessels proceeding from the harbours of the Danube, as far as Galatz inclusive, as well as their cargoes, may sail direct for the ports of all British possessions, as if they came direct from the harbours of Austria; and reciprocally, all English vessels, as well as their cargoes, shall be admitted into Austrian harbours with the same immunities as Austrian vessels. 5. The productions of the ports of Asia and Africa within the Straits of Gibraltar, which, after being carried direct to Austrian ports, are thence sent in Austrian vessels to British ports, shall enjoy the same advantages as if imported by English vessels from Austrian ports. 6. All articles imported or exported into, or from the ports of the two countries, under the flags of either, whether in British or Austrian bottoms, subjected to the same duties and premiums. 7. Goods in bond from either country subjected to the same duties on re-exportation. 8. No preference to be shown by either power in the purchase of imported commodities, on account of the nationality of the vessel in which such commodities may be imported. 9. The Austrian trade to the East Indies placed on the footing of the most favoured nations. 10. Treaty not to apply to trade between one port and another situated in the dominions of the same power. 11. The vessels and subjects of the two powers, in their trade and navigation, are always to enjoy reciprocally all the privileges of the most favoured nations in the ports of either. 12. Stipulations in treaty of 1815, as to trade between Austria and Ionian Islands, to continue in force. 13. This treaty to be binding until 31st December 1848, and thereafter, until 12 months after notice.

AVERAGE in the law of shipping is generally applied to the loss occasioned by any sacrifice made to insure the safety of a ship and cargo, and being a loss which underwriters have to replace, it constitutes part of the law of insurance. There are, technically speaking, two sorts of average, *general average*, and *simple* or *particular average*. The latter is an unmeaning term used merely in contradistinction to the other; to express those losses arising from the danger of the sea and otherwise, which are not made up by any contribution, but fall on the possessors of the article lost, or on those who may be responsible for its safety. General average dates back to the days of Rhodes. Its principles were fully developed by the earlier civilians; the maritime nations of the middle ages adopted them, and the system is in full practice over all the commercial world. The circumstance under which the provisions of this law can be had recourse to is, when a vessel and the crew, passengers, and cargo, are in such imminent danger as to render it necessary to make a sacrifice of a part, for the preservation of the whole. The simplest case is that of throwing goods overboard to lighten the ship. Here cargo is sacrificed, and the other proprietors of cargo, along with the shipowners, bear a share of the loss, according to their respective interests. In another instance, it may be necessary to cut away a mast, or slip an anchor. Here the sacrifice is against the shipowners, and the other parties interested must share the loss with them. It is of no moment how light and valuable may be the goods thrown overboard, or how much the reverse these saved. It is said that the act should be done with formality and deliberation, and with the consent of the majority of those on board. The circumstances, however, under which so extreme a measure is generally taken, do not often admit of form and deliberation, and the necessity for the act will have more weight than its regularity. Goods stowed on deck are presumed to be an encumbrance, and so not suitable subjects of average. A loss effected by inherent defect, or by sea risk, cannot be considered average; there must be an intention to sacrifice, and that intention must have been with the view of preserving the remaining property embarked in the adventure. It is held, that where a vessel having sustained an injury has to put into a port for repairs, the expense of putting into port and remaining there, is to be considered average loss, if the act was necessary for the safety of all concerned, but that the expense of the repairs (unless in so far as they may be solely necessary for the preservation of the cargo) falls on the shipowners. Property injured in the making of the sacrifice—such as a part of the ship cut away to facilitate the throwing overboard of goods, constitutes average. An accurate statement of the circumstances under which a jettison, or other loss on which average is claimed, should be entered in the log, and immediately on arrival, the master

should draw up a narrative of the circumstances, and make affidavit to them, along with his crew, that there may be no ground to presume that goods have been removed since arrival.

The adjustment is generally made thus : The owners contribute according to the net value of ship and freight at the port of delivery, after deducting expenses. But ship provisions, wearing apparel, and seamen's wages, do not contribute. If the vessel has had to put back to the port of lading, the cargo is taken at invoice price ; otherwise, the cargo is valued at the price it would bring at the port of destination, deducting freight and charges. Ship furniture is rated at the cost of renewal, with a deduction of one-third. The value of what is lost being thus estimated, is added to the value of what is saved, and the whole being divided according to the respective interests of the parties, the loss which each has to suffer is a sum bearing the same proportion to his share of the whole sum divided, which the loss sustained bears to the whole sum. (*Abbot on Shipping*, 342-363. *Marshall on Insurance*, 538-552. *Stevens on Average*. *Martin on the Practice of Stating Averages*.)

AVERAGE in arithmetic is the *mean* of two or more quantities, formed by adding them together, and dividing by the number of quantities. Thus, 4 is the average of 2 and 6 ; and 5 is the average of 2, 6, and 7. The averages most commonly required in trade are those of prices. Example : What is the average price per quarter of 300 quarters wheat, sold at 70s. per quarter ; 260 quarters at 50s. ; and 270 quarters at 60s. ?

300 quarters at 70s. =	£1050
260 at 50s. =	650
270 at 60s. =	810

830

830) 2510 (*Ans.* £3 : 0 : 5½ per quarter.

Further illustrations will be found under the heads ALLIGATION and EQUATION OF PAYMENTS.

In calculations of this kind, it must be remembered, that the average of a set of averages is not the average of the whole, unless there are equal numbers of quantities in each set averaged.

AVOIRDUPOIS, the name of the British commercial weight. It is "probably derived from *avoirs* (averia), the ancient name for goods, or chattels, and *poids* weight." (*Report of Commissioners of Weights and Measures*.)

AXUNGE. [LARD.]

AZORES, OR WESTERN ISLANDS, are situated in the Atlantic, between lat. 37° and 40° N., and long. 25° and 32° W., about 795 miles W. from Portugal, to which they belong. They consist of three groups, viz. 1. St Michael and St Mary ; 2. Terceira, Fayal, Pico, St George, and Graciosa ; 3. Flores and Corvo, exclusive of several islets. Pop. 205,000. The seat of government is Angra, in the island of Terceira, pop. 16,000.

These islands are of volcanic origin, and are in general mountainous. The climate is mild and pure ; and the soil highly fertile,—most of the islands abounding in vineyards, orange and lemon orchards, and pastures. The growth of wine is considerable : it is produced mostly in Pico, but is known as Fayal wine, from being shipped from the latter. From 8000 to 10,000 pipes are exported in favourable seasons to America and the West Indies. The remaining exports are chiefly from St Michaels, and consist of large quantities of fruit to Britain ; and of corn and live-stock to Lisbon, Madeira, and the Canaries. The imports are, from England, cottons, woollens, hardware, earthenware, and other manufactured goods ; from America, boards, staves, lumber, fish, pitch, tar ; and from Portugal, tobacco, sugar, coffee, dispensations, indulgences, images of saints, and relics. The principal shipping towns are Ponta del Gado in St Michaels, Angra in Terceira, and Fayal in the island of that name ; but there is no good port, and as none of the anchorages afford shelter, ships are often obliged, by violent winds, to put to sea at a very short notice, particularly in the months from October to April. In 1833, the British shipping that entered the Azores, and the invoice value of British imports and exports were as follows : *St Michaels*, ships entered, 305 ; tonnage, 21,903 ; imports, £56,437 ; exports, £100,116. *Terceira*, ships entered, 59 ; tonnage, 5419 ; imports, £18,200 ; exports, £12,667. *Fayal*, ships entered, 32 ; tonnage, 3607 ; imports, £8609 ; exports, £7294. Total value of British imports in 9 years, 1825 to 1833, £738,867 ; and of exports in same period, £895,785. *Measures, Weights, and Money*, same as Portugal. (*Geo. Journal*, vol. iv. *Tables of Board of Trade*.)

AZURE STONE, OR LAPIS-LAZULI, a mineral substance of an azure blue colour. It is found massive ; also, though rarely, in rhombic dodecahedrons. Sp. gr. 2·95. The massive is nearly opaque, and its blue colour is not uniform. Chief localities, China, Persia, Bucharía, and Siberia. The finer kind is prized by the lapidary ; and the common is used occasionally for toys, &c. Lapis-lazuli is, however, chiefly important from its affording *ultra-marine*, a beautiful pigment, highly valued by painters.

B.

BABLAH, called also *Neb-neb*, is the rind of the fruit of the *Mimosa cineraria*. It contains a considerable proportion of gallic acid ; also tannin, a red colouring matter, and an azotized substance. Bablah has been imported from the East Indies and Senegal, as a substitute for the more expensive astringent dye-stuffs, and for communicating shades of drab to cotton.

BACON (Fr. *Lard*. Ger. *Speck*), the flesh of the hog salted and dried. [Hog.]

BADEN, a German grand-duchy, situated on the right bank of the Rhine in its upper course, between lat. 47° and 50° N. ; and long. 7° and 10° E. Area, 5915 British square miles. Population in 1834, 1,231,319. Capital, Karlsruhe ; pop. 20,500. Government a constitutional monarchy, with two chambers.

Baden has been called the " Eden of Germany," for although nearly one-half of its surface is occupied by the mountainous districts of the Black Forest and the Odenwald, it possesses a soil favourable to the growth of corn, wine, and fruit, and abounds in magnificent woods and navigable streams ; while the proportion of waste lands to the whole soil is less than six acres in every thousand. Agriculture is the chief occupation of the people, and yields a surplus of grain for the markets of Switzerland and France. Tobacco, hemp of a very fine description, and flax, are also extensively cultivated. The average produce of the vine, which is chiefly grown on the high lands skirting the valleys of the Rhine and Main, and Lake Constance, is estimated at about 4,000,000 gallons. Mining is carried on with partial success, the chief mineral productions being silver, cobalt, copper, iron, manganese, salt, coal, alum, vitriol, and sulphur. The manufactures, though inconsiderable, have increased since the accession of Baden to the Prussian Commercial Union ; the most extensive is perhaps that of the middling and coarser descriptions of linen ; the chief others are woollens, cottons, silks, watches, jewellery, paper, and wooden ware, clocks, and straw-hats, for the production of which the Black Forest has been long celebrated. Pforzheim, Karlsruhe, and Mannheim, are the principal manufacturing towns.

The exports consist of timber, grain, meal, oil, hides, wine, hemp, linen, tobacco, iron wares, and smaller commodities, to an amount exceeding one million sterling yearly ; the imports of French and other wines, colonial produce, drugs and dyes, iron, steel, cottons, silks, fine woollens, horses, and cattle. Baden is advantageously situated for trade from its position on the Rhine, Main, Neckar, and other streams, which, besides securing to it an outlet for its own productions to France, Germany, and Switzerland, have rendered it a country of extensive transit. Free ports have been instituted at Mannheim, Schrock on the Rhine near Karlsruhe, Ottenheim and Freistett on the same river, Ludwigshafen and Constance on the Lake of Constance, and Heidelberg on the Neckar.

Measures and Weights.—The new aune of 2 feet = 6 French decimetres or 23·62 inches ; the morgen = 36 ares or 0·8896 acre ; the ohm = 150 litres or 33·015 Imp. galls. ; the last of 20 malters = 30 hectolitres, or 10·32 Imp. quarters ; and the centner of 10 stones or 100 lbs. = 50 kilogrammes, or 110½ lbs. avoirdupois.

Money.—Accounts are stated in florins, each divided into 60 kreutzers. The Baden or Rhenish florin, being coined at the rate of 24½ to the Cologne mark of fine silver, is equal 1s. 8d. sterling.

Finances.—The estimate of the budget for 1837-38 was 13,026,559 fl. a-year, of which the share received from the Prussian Customs Union was 1,495,593 fl. National debt about 12,000,000 fl.

BAGGAGE. [PASSENGER.]

BAGGING, a coarse hempen fabric used as a wrapper for cotton wool, coffee, and other articles. It is made chiefly at Dundee, for exportation to America.

BAILMENT, from the French *bailler*, to deliver,—a term peculiar to English law. Sir William Jones defines it as " a delivery of goods on a condition, expressed or implied, that they shall be restored by the bailee to the bailor, or according to his directions, as soon as the purpose for which they were bailed shall be answered " (*Essay I. on Bailments*). It embraces a variety of contracts, the nature of which is thus defined and illustrated by Blackstone : " a delivery of goods in trust, upon a contract, expressed or implied, that the trust shall be faithfully executed on the part of the bailee. As, if cloth be delivered, or (in our legal dialect) bailed, to a tailor to make a suit of clothes, he has it upon implied contract to render it again when made, and that in a workmanly manner. If money or goods be delivered to a common carrier, to convey from Oxford to London, he is under a contract in law to pay, or carry them, to the person appointed. If a horse, or other goods, be delivered to an innkeeper or his servants, he is bound to keep them safely, and restore them when his guest leaves the house. If a man takes in a horse, or other cattle, to graze and depasture in his grounds, which the law calls *agistment*, he takes them upon an implied contract to return them, on demand, to the owner " (*II.* 451). The contracts so embraced in this term will, where they have relation to commerce, be found treated under their respective designations. The term bailment is now generally used by legal writers, for the purpose of classifying the various contracts it embraces, with a view to a consideration of the proportionate responsibility of the bailee for the subject under his charge, according to the

nature of the bailment. The scale of responsibility generally approved of, is that adopted by Sir William Jones. He adopts the distinction of the civilians between *culpa*, *culpa lata*, and *culpa levis*, or "ordinary neglect," "gross neglect," and "slight neglect." These are thus distinguished :—

"ORDINARY neglect is the omission of that care, which every man of common prudence, and capable of governing a family, takes of his own concerns.

"GROSS neglect is the want of that care, which every man of common sense, how inattentive soever, takes of his own property.

"SLIGHT neglect is the omission of that diligence which very circumspect and thoughtful persons use in securing their own goods and chattels" (118, 119). The responsibility of the bailee, as measured by these definitions, has been thus applied to the leading contracts comprehended under the term bailment.

In *Deposit*, where the bailee becomes the gratuitous custodier of the goods, he is not in general liable for what may happen to them, unless a wilful carelessness, which must be presumed to evince fraud or malice, can be shown to have actuated him. If he be naturally careless, and allow his own property to run the same risk, the proprietor must bear any loss which may occur, as the consequence of having trusted a person of such habits with his property,—in this case, then, the bailee is only answerable for gross neglect.

In *Mandate*, where the mandatory acts gratuitously, the same rule applies, with the difference applicable to the position of the bailee, who is not merely the passive custodier, but has undertaken to perform some act relative to the subject put into his hands. He is not bound to exact diligence, and cannot be made responsible, unless for gross carelessness, as above (but see below, in the case of a hiring).

Commodate or loan for use, exacts the highest degree of care on the part of the borrower. The rule is, that the article lent perishes to the owner, but as it is intrusted to the borrower for his convenience, he will be liable in damages, if the loss can in any way be attributed to the absence of caution on his part. A borrower or hirer is absolutely liable for the safety of the object, if he keep it beyond the time stipulated, or use it for a purpose different from that for which it was lent.

Pledge, or *Pawn*, being a contract for the mutual advantage of the bailor and bailee, exacts ordinary diligence. The subject, if it perish, perishes to the bailor, but he can make the bailee responsible if he has shown "ordinary neglect," or has not taken such care of it as a man usually takes of his own property. There are special statutory regulations for the responsibility of pawnbrokers. [PAWN-BROKERS.]

Location includes many contracts of great practical importance, such as the letting and hiring of moveables, the employment of manufacturers or artists to perform operations on subjects put into their hands, the employment of factors and agents [FACTOR. PRINCIPAL AND AGENT.], and the delivery of goods to carriers, shipowners, innkeepers, and others. The general rule in location is, that the bailee is liable for ordinary neglect, but special rules apply to the several contracts. Thus, from an early period, shipowners, carriers, and innkeepers, have been considered under an absolute obligation safely to restore all goods committed to their charge, no cause of deterioration exculpating them, unless it be occasioned by "the act of God or of the king's enemies;" there are, however, in special cases statutory limitations of such responsibility. For further information on this subject, reference must be made to the heads CARRIER, FACTOR, INNKEEPER, SHIPPING, WHARFINGER.

In bailment, the bailor continues proprietor, but "a special qualified property" is transferred to the bailee, who being responsible to the bailor, has a right to maintain an action against any person injuring or abstracting the subject. (*Blackstone*, as above. *Sir William Jones' Essay on the Law of Bailments*.)

BAIZE, a coarse open woollen fabric, having a long nap, and sometimes friezed on one side. It is made at Chichester and Colchester, but principally at Rochdale.

BALACHONG, a kind of cake formed of dried fish, pounded up with salt and spices, and then allowed to ferment freely. The best sort, or the red balachong, is made of shrimps. The black, or common sort, is made of other small fish. It is esteemed a great delicacy by the Malays and Chinese, with whom it forms an article of extensive commerce.

BALANCE, the sum of money which must be added to one or the other side of an account, in order that the debits and credits may be *balanced*, or of equal amount. [BOOKKEEPING.]

BALANCE, or BEAM AND SCALES, is a well-known instrument used for comparing weights with one another. When well-constructed, it must have the following properties :—1st, It should rest in a horizontal position when loaded with

equal weights. 2d, It should have great *sensibility*, that is, the addition of a small weight in either scale should disturb the equilibrium. 3d, It should have great *stability*, that is, when disturbed, it should quickly return to a state of rest. That the first property may be obtained, the beam must have equal arms ; and the centre of suspension must be higher than the centre of gravity. The second property, *sensibility*, is greater, in proportion to the length of the arm, the less the distance between these two centres, and the less the weight with which the balance is loaded. The third property, *stability*, is attained by making the centre of gravity of the whole apparatus fall below the point of support. The arm having a given length, additional weight either to the scale or beam is favourable to stability, and unfavourable to *sensibility*. Every increase of *sensibility* (the arm remaining the same) is a decrease of *stability*, and *vice versa*. *Stability* in a balance is much less difficult to attain than *sensibility*. The scales of shopkeepers are sufficiently stable, but few are very sensible. Balances of great *sensibility*, however, are not suited for the ordinary purposes of business, as the process of weighing in such balances is generally tedious, owing to the slow vibrations of the beam. Balances used in commerce are sometimes constructed either fraudulently or by inaccurate workmanship, so as to make unequal weights produce equilibrium,—an effect produced by making the arms of the balance, though apparently equal, really unequal. But an error of this kind is readily detected, by transposition of the weights, when, if the equilibrium be not preserved, the balance is fraudulent and useless. A balance for delicate purposes should be made as much as possible of brass, as steel and iron are apt to acquire magnetic properties.

BALANCE OF TRADE, a term sometimes employed to express the difference between the commercial exports and imports of a state. This term was introduced, and has been chiefly used, by the supporters of the *mercantile theory*, a system of Political Economy which was based on the assumption, that “wealth consists of the precious metals ; that what is gained in trade by one nation must be lost by another ; and that our great object in receiving returns should be to get money instead of merchandise.” Hence, when the exports exceeded the imports, the state was said to have a *favourable balance*, and in the opposite case, an *unfavourable balance* ; it being supposed that such balances could not be cancelled, except by the remittance of an equivalent amount of gold and silver, and that the money thus remitted was the measure of the gain or loss derived by the state from foreign trade. In order chiefly to bring about the desirable result of a favourable balance, restrictions and prohibitions were for many years imposed on the importation of nearly all commodities except bullion, while on the other hand bounties were granted on exportation. [BOUNTY.]

The selfish principle that what is gained in trade by one nation is lost by another, is now abandoned ; it being obvious, that unless in the general case both parties are benefited, no exchange of commodities will take place. It is now also admitted, that the wealth of states and of individuals consists not in money alone, but in the abundance of their whole disposable products ; that gold and silver are commodities subject to the same general rules in their transmission, as sugar, tobacco, or any other commodities, namely, sent from where they are of lower, to where they are of higher value, and never exported except for the purpose of importing some more valuable article in return ; that in the case of what is called an unfavourable balance, bullion is not exported unless it be at the time the cheapest exportable commodity ; and that in point of fact its exportation (except from mining countries), as well as its importation, can take place only to a limited extent. If bullion be largely exported, it will become scarce, and of course dear, in the exporting country ; the money value of other commodities will in a proportionate degree fall ; and they will become preferable objects of remittance and exportation until bullion is again reimported. In a similar manner, if by the operation of a favourable balance, bullion is imported in greater quantity than is necessary to supply the wants of the country, its value will become depreciated in relation to other commodities, and it will be again re-exported. [EXCHANGE.]

The public accounts do not show correctly the amount of the exports and imports of the country ; the *official*, or custom-house rate of valuation, having been fixed so far back as 1696, when prices were altogether different from what they are now ; while the *declared* value furnished by the merchant applies solely to the exports. In 1839, the official value of the exports was, £110,198,716 ; and of the imports, £62,004,000 ; showing, according to this valuation, a balance of trade in favour of the United Kingdom, or an excess of exports above imports, to the extent of £48,194,716 ! It is manifest, however, that unless the imports of a merchant exceed

his exports in value, his trade would be speedily abandoned ; and as what is true in the case of the individual merchant must be equally true in the case of the community at large, it follows, that could the public accounts be kept with accuracy, they would show, instead of a greater amount of exports than of imports, a very considerable excess of the latter above the former.

BALE, a bundle or parcel of goods, packed up for carriage.

BALKS, large beams of timber, such as are used in building.

BALLAST (Dan. *Baglast*. Du. Ger. & Sw. *Ballast*. Fr. *Lest*. It. *Savorra*. Sp. *Lastre*. Por. *Lastro*. Rus. *Balast*), sand, iron, or any other heavy material employed for sinking a vessel to a proper depth in the water, and to give it a just counterpoise against the action of the wind on the sails. In ballasting a vessel, the centre of gravity should be placed neither too high nor too low. When too much heavy ballast is deposited in the bottom of the hold, the vessel will be too *stiff*; she will roll violently, and besides having her sailing qualities impaired, will be in danger in bad weather of being dismasted. When, on the contrary, there is too little ballast, or this is so disposed as to raise the centre of gravity too high, the vessel will be too *crank*, and equal danger will arise. The art of ballasting, however, is to be acquired rather from experience than specific rules, as the quantity required by different vessels of the same tonnage varies according to their shape or *build*.

Vessels in ballast, i. e. having no goods on board other than the stores and other articles requisite for the ship, crew, and passengers, are exempt from the payment of certain port-charges which are levied upon vessels having cargoes ; many formalities at the Custom-house are likewise dispensed with in favour of such vessels. A foreign vessel proceeding from a British port is considered as a ship in ballast, though having on board a small quantity of goods of British manufacture for the private use of the master and crew, and not as merchandise, provided such goods do not exceed in value £20 for the master, £10 for the mate, and £5 for each of the crew.

The ballasting of vessels in the Thames is placed under the superintendence of the Corporation of the Trinity-house, in whom is vested the soil of the river from London Bridge to the sea. Their charges are as follows :—

For *land ballast* from any quarries or pits east of Woolwich, 1d. per ton of 20 cwt. For *river ballast*, not washed, carried to any vessel employed in the coal-trade, 1s. per ton ; carried to any other British vessel, 1s. 3d. per ton ; carried to any foreign vessel, 1s. 7d. per ton. For washed ballast, double these rates are chargeable in each case respectively.

The following additional sums are also chargeable :—For each ton delivered in or unladen from the inward East or West India Dock, 10d. ; in or from the outward East or West India Dock, the London Dock, the Commercial Dock, the East Country Dock, or the City, Surrey, or Regent's Canal, 4d.

No ballast is to be put on board before entry at the Ballast-office, under a penalty of £5 per ton. The Trinity Corporation may recover a fine of £10 from any person, for every ton of ballast which he may take out of the river, within the limits above mentioned, without their authority. It is likewise ordered, that the ballast of all vessels coming into the Thames must be unladen into a lighter, the charge for which is 6d. per ton ; and a penalty of £20 is levied from the master of any vessel from which ballast is cast into the river.

Similar regulations exist in most other ports. [For the custom-house regulations as to vessels in ballast see *Customs' Regulation Act*, abridged, § 80-83.]

BALSAM (Fr. *Baume*. Ger. *Balsam*). Under this name are commonly included various medicinal resinous juices obtained from trees ; but the term is strictly applicable only to such as contain benzoic acid, along with a volatile oil and resin ; and of these true balsams there appear to be only five ; namely, Balsam of Peru, Balsam of Tolu, Benzoin, Storax, and liquid Amber. There are besides the balsam of Gilead or Opobalsam, Copaiba, and others which contain no benzoic acid, but are turpentine containing a volatile oil and resin.

BALSAM OF PERU is procured from the *Myrrylon Peruiferum*, a tree which grows in the warmest parts of South America. It occurs in two states ; one called the white, the other the black. The former, which results from spontaneous exudation, or incisions made in the bark, is very rare. The black or common balsam is said to be procured by boiling the bark and branches of the tree. It is a fluid, having the consistence of syrup, a brown colour, fragrant aromatic smell, and a pungent bitterish flavour. Sp. gr. 1.15. It is commonly imported in tin flasks. Both the white and the black balsams are extensively adulterated, chiefly with copaiba, turpentine, or volatile oils.

BALSAM OF TOLU, or **DRY WHITE BALSAM**, is said to flow from incisions in the same tree (?) ; and when fresh, is of the consistence of a strong turpentine. It becomes tenacious with age, and in cold weather may be broken, but melts again in summer. It is a brownish-yellow or reddish-brown friable substance, of a pleasant smell like benzoin, and a weak aromatic somewhat acrid taste. Its adulteration with turpentine or resin is known by its odour when thrown on hot coals. It is imported in jars or tin cases.

The balsams of Peru and Tolu are employed medicinally in the state of syrup or tincture, particularly in cough mixtures; their fragrance also renders them pleasant adjuncts to chocolate, liqueurs, and other articles. [BENZOIN. STORAX. COPAIBA.]

BAMBOO, a gigantic plant of the reed or grass kind, which grows luxuriantly in the tropical parts of Asia and America. It shoots up with great rapidity, and varies in height from 15 to nearly 100 feet. When full grown its general appearance is that of a straight rod with a number of stiff branches shooting at right angles from the main stem. It is of almost universal use, and is probably the most valuable boon conferred by nature upon the inhabitants of warm climates. The young shoots of the plant are eaten like asparagus; when older, a fluid affording an agreeable beverage is secreted in the hollow joints; and the leaves and seed are used in medicine.

"No plant is more useful where a union of strength and lightness is required. In building it is so generally employed that the houses of the inferior classes in India are almost exclusively constructed of it. It is adapted to the formation of bridges, masts for boats, and almost every article of domestic furniture. Bedding and sacking, and even cordage are manufactured from it. It is the common fence for gardens and fields; and palanquins and light carriages are principally composed of it. The hollow stems serve for waterpipes, and in military operations it has often been resorted to for the construction of screens. Finally, according to Barrow, the Chinese find the bamboo invaluable for keeping the whole empire in due subordination through the medium of incessant bastinading." (*Edin. Cab. Lib., British India.*)

BANANA, the fruit of the *Musa paradisiaca*, a valuable plant common in tropical countries. It very closely resembles the plantain [PLANTAIN], but is generally shorter and rounder, with a pulp softer and of a more delicate taste.

The banana and plantain are to the inhabitants of the torrid zone what corn is to Europe, and rice to the natives of India and China. Humboldt doubts with reason whether there is any other plant in the globe which, in so small a space of ground, can produce so great a mass of nutriment. Eight or nine months after the sucker has been inserted in the earth, it begins to form its clusters, and the fruit may be gathered in less than a year. A plantation is perpetuated without any other care than that of cutting the stems on which the fruit has ripened, and giving the earth a slight dressing. A spot of 1076 feet may contain at least from thirty to forty plants, which, in a year, will yield more than 4410 lbs. of nutritive substance. Humboldt also estimates that the produce of the banana is to that of wheat as 133:1, and to that of potatoes as 44:1. Numerous preparations are made of this fruit, both before and after its maturity. When fully ripe, it is exposed to the sun, and preserved like our figs, forming an agreeable and wholesome food; while meal or flour is obtained from it by being cut into slices, dried, and pounded. It is calculated that the same extent of ground in Mexico on which the banana is raised, is capable of maintaining fifty individuals, whereas in Europe, under wheat, it would not furnish subsistence for two; and nothing strikes a traveller more than the diminutive appearance of the spots under culture round a hut which contains a numerous family (*Humboldt's Travels, Edin. Cab. Lib.*). The other parts of the plant are also useful. The leaves, which are more than two yards long, and a foot broad, are used for napkins and table-cloths, and are food for hogs. The water from the soft trunk is used as an astringent. In the Philippine Islands the fibrous bark of a wild banana, *Musa textilis*, is made into cloth, and also affords material for the cordage called in eastern countries Manila rope.

BANCO, an Italian word signifying Bank, used for describing the bank money of Hamburg and other places.

BANDANA, a kind of handkerchief with bright figures or spots upon a red or dark ground. India is the original seat of this manufacture; but the oriental patterns are now far surpassed in beauty and precision of design by the British. The term bandana is also applied to the style of calico-printing by which the patterns are produced.

BANK, a term sometimes applied to a depository for money, but most commonly to an establishment for dealing in money capital. The proprietor or manager of such an establishment is called a *banker*; and the term *banking* is generally used to express the rules and principles by which his operations are, or should be regulated, as well as these operations themselves.

I. HISTORICAL NOTICE.—Few records are preserved of the extent to which banking was known or practised by the ancients. The first bankers were the money dealers, who exchanged the coins of one nation for those of another. In Athens and Rome bankers are said to have existed who fulfilled many of the modern functions of the trade; but the prejudice against the taking of interest for money, rendered the business one of little repute. The barbarism of the middle ages left no field open for banking. In the twelfth century, however, the revival of commerce in Italy again created the necessity for the employment of bankers. These at first were Lombard Jews, who exchanged money and bills in the public market-places on benches, whence the term bank, from *banco*, the Italian word for bench. The modern public banks were originally deposit-banks. The first was

the celebrated Bank of Venice, instituted in 1171. Its capital was composed of a loan advanced to the state, which was made transferable in the books of the bank. It opened accounts with depositors of gold, silver, and jewellery, giving them credit for the value of the effects deposited. The holders of such credits were said to be the holders of so much bank money; and it was made obligatory upon the merchants to make their contracts and draw their bills in this money, the payments being effected by a transfer from one name to another in the bank accounts of the funds deposited in its coffers. In 1587, its capital was above five millions of ducats. This bank continued to prosper until the subversion of the republic in 1797; and its money at all times bore an agio over the current money of the city: in 1808 it was discontinued. The banks of Barcelona and Genoa were founded in the fourteenth century. In 1609, the well-known Bank of Amsterdam was established, and shortly afterwards, in 1619, the Bank of Hamburg, both banks of deposit, on the model of that of Venice. The other continental banks are of much more recent formation.

In England, the Jews, famous during the middle ages for "their egregious cunning in trade," were the principal money dealers until the thirteenth century, when this branch of business was shared by a number of Lombard Italians who then settled in the country. The business of banking, however, in the modern sense of the term, is comparatively of recent date. In London, the merchants lodged their money for security in the Tower, whence they drew it out as occasion required; but in 1640, Charles I. having seized £200,000 thus deposited, they appear to have afterwards employed the goldsmiths as their depositaries. The London goldsmiths, whose money trade had previously been confined to the changing of coins, then extended their business by borrowing and lending on interest; and the receipts which they gave for deposits circulated nearly in the same manner as the modern bank notes. The extension of commerce which occurred about half a century later, after the settlement of the government of the Revolution, led to the institution of the Bank of England, the Bank of Scotland, and in time to other establishments in the manner afterwards described.

II. OBJECTS AND PRINCIPLES OF BANKING.—These will be best explained by first considering separately the principal purposes of a bank, namely, receiving deposits, facilitating remittances, issuing paper money, and making loans, and afterwards showing the general effect of these operations when combined; in each case having regard chiefly to the mode in which banking is usually conducted in the United Kingdom.

Deposits.—The banks first instituted in Europe after the revival of commerce were, as already noticed, established for the purpose of receiving deposits. The lodgements consisted of coin of full weight, or an equivalent amount of bullion; and the credits raised in the bank books for such deposits were transferred in payment of debts from one account to another by means of drafts or cheques; the coin or bullion being seldom or never withdrawn, except when required for exportation. No interest was allowed on the deposits; and the advantages derived from such banks consisted in the safe custody of the precious metals, in the facility and despatch given to cash transactions by the transfer system, and in the certainty afforded that these transactions would be adjusted in currency of a determinate and invariable standard, instead of the light and debased coins then in circulation. This mode of banking is still continued in HAMBURG, under which head it is more fully explained. But in the United Kingdom the receiving of deposits is invariably conjoined with other departments of banking business; and the general condition of the circulating medium renders bullion lodgements unnecessary. Deposit banking, as thus modified, still furnishes to the public the advantages of secure custody for their money, with the facility, despatch, and economy of the transfer system; besides which, interest, varying from about two to three per cent., is (except by the private bankers of London) generally allowed on the sums in their hands, from the readiness with which they can be reinvested by the banks in securities yielding a higher rate. Deposits in this country are, however, of two kinds: *Dead Accounts* (distinguished in Scotland as *Deposit Receipts*), in which money is invested for the purposes of security and interest without being operated upon; and *Drawing Accounts*, called also *Running, Operating, or Current Accounts*, in which there is a perpetual paying in and drawing out by cheques or otherwise, according to the circumstances or necessities of the depositor, interest being allowed on the daily balances in the hands of the bank.

Remittances were, in ancient times, effected by sending a messenger with the coin, and in the middle ages by means of bills of exchange. The latter still form the chief

which for foreign remittances; but the transmission of money from one part of the kingdom to another is now almost entirely effected by the banks, by whom it is conducted with great security and despatch, through the medium of their agents or their branches. These facilities encourage trade in two ways — First, by enabling money to be transmitted in a shorter space of time, capital is made to revolve more rapidly; and, secondly, they diminish the prices of commodities, operating like improved roads in lowering the expense of their conveyance. The most common form of effecting an inland remittance is that of a *Letter of Credit*, which authorizes the bank's correspondent to repay the money deposited with them to the party named in the letter; the use of the money during the intervening period and sometimes a small commission, forming the remuneration to the bank. [EXCHANGE.]

Circulation.—The issue of paper money in the form of notes payable to the bearer on demand, is, in reference to the public, perhaps the most important of the functions of a bank; but a disturbing element is attached to it from the circumstance of its being profitable according to the proportion in which the amount of notes that is kept in circulation exceeds the amount of capital which is kept in reserve for the payment of them. It is, however, generally admitted, that banks of issue are capable of conferring valuable benefits upon a country when they are properly conducted, their operations confined to the legitimate objects of banking, and their liability to comply with their contracts strictly enforced. The principal check upon the overissue of banks is the convertibility of their notes into specie on demand. That tendency is also limited on the one hand by the wants of the public, on the other by the desire of the banks to protect their own interest; as the issue of notes will be either in the repayment of deposits, or in the form of loans by discounts or otherwise. Further checks exist in the system of bank exchanges, by which the notes circulated by one establishment are intercepted by the others and brought back to it, and by the practice of allowing interest on deposits, under the influence of which the notes not necessary in trade are returned for the purpose of investment. [MONEY.]

Loans may be classed under three heads: 1st, Discounts; 2d, Cash-credits; 3d, Overdrafts on Current Accounts:—

1. **Discounts.** The form in which loans are chiefly made by bankers is on the security of bills of exchange, which are well adapted for their purpose, as having only a short time to run before they fall due, the advanced capital soon returns, while, being transferable, they can, if necessary, be rediscounted. The advance is made to the full amount of the bill under deduction of interest, or as it is somewhat loosely termed *discount*, for the time which the bill has to run; a commission is also sometimes charged, varying from one-fourth to one-eighth per cent.

"The bills presented to a bank for discount," says Mr Gilbart, "may generally be divided into the following classes:—

- "(1.) Bills drawn by producers or manufacturers upon wholesale dealers.
- "(2.) Bills drawn by wholesale dealers upon retail dealers.
- "(3.) Bills drawn by retail dealers upon consumers.
- "(4.) Bills not arising out of trade, but yet drawn against value, as rents, &c.
- "(5.) Bills of accommodation.

"The first two classes of bills are the best, and are the legitimate bills for bankers to discount. The third class ought not to be too much encouraged. They are for comparatively small amounts, and are drawn by shopkeepers and tradesmen upon their customers. To discount these bills freely would encourage extravagance in the customer, and ultimately prove injurious to the drawer. When a man accepts bills to his butcher, baker, tailor or upholsterer he may fairly be supposed of being beyond his means. Solvent and regular people pay their tradesmen's accounts with ready money. The fourth class of bills, though sometimes proper, ought not to be too much encouraged. Persons out of trade have no business with bills. The last class of bills should almost always be rejected. To an experienced banker who knows the parties, the discovery of accommodation bills is by no means difficult. They are usually drawn for even amounts, for the largest sum that the stamp will bear, and for the longest term that the bank will discount, and are presented by a trusted man after they are drawn. The parties are often relations, friends, or parties who, from their conditions, can have no dealings with each other." (*History and Principles of Banking*, p. 113.)

The strength of the position which bills have to run is also matter of consideration. The principal advantages to a bank of short dated bills compared with long dated bills are the following:— There is no necessity for discounting short bills, because the parties may fall before the long ones fall due. The interest which (where this is charged) will be more in the course of a year upon any given amount of capital employed in discounting short bills than in discounting long bills. A greater amount of notes will be issued in discounting a number of short bills than in discounting long bills. Long dated bills lock up the funds of a bank, so that they cannot be discounted with safety out from the bank's own capital, for if a bank employs its deposits, or its circulation in discounting long dated bills and payment of the notes or deposits should be demanded, the long dated bills could not be rediscounted, and the bank must stop. Long bills may encourage extravagance; as persons may purchase large quantities of commodities in the expectation that the

price will advance before the long bills which he accepts in payment shall fall due ; while if the bills are of short date this will be prevented. (*Ibid.* p. 156.)

Besides discounting bills the banks render important services in attending to their due negotiation ; it being customary for merchants and other people to send all the bills and drafts payable to them to their bankers, who become responsible for their regular presentation for payment, and for their noting if not paid.

2. A Cash-credit is an undertaking on the part of a bank to advance to an individual such sums of money as he may from time to time require, not exceeding in the whole a certain definite amount, for repayment of which he enters into a bond with securities. Cash-credits are granted not only upon personal security, but also upon the security of stock in the Public Funds, also occasionally of lands or houses, and by some joint-stock banks on the security of their own shares. To those requiring temporary advances of money, cash-credits possess the following advantages over discounts :—The party can repay any part of the sum drawn at pleasure, and interest is charged only for the money actually employed : He has also the power of drawing whenever he pleases to the full amount of his credit ; whereas, in the case of discounting bills, he must make a new application to the bank for each bill. To a bank the comparative advantages of a cash-credit in respect to bills, consist chiefly in its connecting the party more intimately with the bank ; in the summary mode in which the bond may be recovered from the party or his securities ; while to a bank issuing notes, the frequent operations under the credit gives activity to its circulation. On the other hand, their comparative disadvantages to a bank are as follows :

“(1.) Cash-credits, when once granted, cannot be called up, but bills of exchange soon fall due, and you can refuse to discount again. (2.) If you discount bills of exchange, they can be rediscounted to supply the bank with funds if necessary, but advances on cash-credits cannot be replaced. (3.) In case of a panic or a run upon the bank, the persons having cash-credits might have occasion to draw upon the bank, and the notes would immediately be returned upon the bank, for payment in gold ; but you could refuse to discount bills of exchange until the run was over.” (*Gilbart*, p. 177.)

The cash-credit system was first introduced in Scotland, to which part of the United Kingdom it is still chiefly confined.

3. Overdrafts on Current or Deposit Accounts. These are stated under a separate head, because in England the advances in this way are considerable. They are similar in character to the drafts under a cash-credit, with this difference, that in a current account the party overdraws on his own individual security, and that on each occasion he has to obtain the permission of the bank.

In advancing money, whether by discounting bills of exchange or otherwise, a bank receives only the market rate of interest. But as this is a return which may be obtained for money without incurring the expense of an establishment for the purpose, it is obvious that no one would invest capital in the business of banking were it to be confined to the loan department alone. The main object of the banker, however, is to procure, and employ on an advantageous footing, the money of other people, and his profits are nearly in proportion to the extent to which he can accomplish that object. The trading capital of a bank consists of—1st, The capital contributed by the partners ; 2d, The money lodged on deposit ; and, 3d, The money deposited for the purpose of remittance ; to which falls to be added in the case of banks of issue, 4th, The amount of notes in circulation. These means are employed in—1st, Discounting bills of exchange ; 2d, Advances on cash-credits, or overdrawn accounts ; and, 3d, Investments in the funds and other public securities. The surplus of the former above the latter forms the *reserve* kept by the bank to meet current demands. The amount of reserve necessary in ordinary circumstances is to be estimated from experience, and the transactions and position of the bank ; but as unforeseen events may occur which may render the bank liable to be called upon for the whole or a considerable proportion of its liabilities, whether in the shape of deposits or notes in circulation, it is of consequence that the amount of trading capital arising from these sources should be invested in securities which shall rapidly revolve, and be at all times convertible. The securities which best fulfil these requisites are bills of exchange, stock in the public funds, and exchequer bills, on which a bank can easily extend or diminish its advances in proportion to the capital which it may have to employ ; increasing them when the deposits and circulation are increasing, and diminishing them when these are diminishing ; while in anticipation of a run, the bills may be converted into money by being rediscounted, and the stock and exchequer bills sold. Investments on securities not readily convertible cannot be made with safety except out of the capital belonging to the bank itself.

Banking establishments are constituted in various ways. On the continent, the public banks are, in general, more or less connected with the government. In the United States they are chiefly joint-stock companies, with charters limiting the responsibility of the partners to the amount of their shares, or some fixed multiple thereof. In this country the banks are constituted in three ways:—1st, Chartered ones invested with certain privileges of monopoly,—as the Bank of England, and the Bank of Ireland; 2d, Joint-stock banks established on the principle of unlimited responsibility; and 3d, Private banks. The joint-stock and private banks again differ in some respects in their privileges and methods of transacting business, according as they are situated in London, in the provincial parts of England, in Scotland, or in Ireland.

III. THE BANK OF ENGLAND was established in 1694 as a bank of issue, deposit, and loan, under the title of the *Governor and Company of the Bank of England*. Its original capital of £1,200,000 was lent to government at 8 per cent. interest, with a further allowance of £4000 a-year for management. According to the statement of the projector, William Paterson, “the erection of this famous bank not only relieved the ministerial managers from their *frequent processions into the city* for borrowing money on the best and nearest public securities at an interest of 10 and 12 per cent. per annum, but likewise gave life and currency to double or triple the value of its capital in other branches of public credit.” The charter was granted for a limited time; but it was renewed at different periods, some advantage being given after each interval by the bank to the public in the shape of an advance of money at a low rate of interest, or without any interest. The capital was increased by new subscriptions in 1708 to £5,559,995; in 1722 to £8,959,995; in 1742 to £9,800,000; in 1746 to £10,780,000; and in 1782 to £11,642,400; lastly, by a bonus of 25 per cent. in 1816 to £14,553,000; the whole of which, as it was raised, was lent to the government.

In 1708 an act was passed prohibiting all other banks of issue in England consisting of more than six partners; and this statute having been construed so as to apply to banks of all descriptions, the Bank of England remained the only joint-stock one in England until it was partially repealed in the year 1826.

In 1696 the bank became involved in difficulties, and was obliged to suspend payment of its notes; but was shortly afterwards relieved by the assistance of the government. No similar embarrassment occurred until the early part of the late war with France, when commercial difficulties, caused by the transition from peace to a state of hostility, an unfavourable state of the exchanges arising from a deficient harvest, foreign subsidies, and, above all, a general dread of invasion produced so great a drain for specie, that on Saturday the 25th February 1797, only £1,270,000 of treasure remained in the coffers of the bank. A further drain being apprehended, an order in council was issued next day by the ministers, prohibiting the directors from paying their notes in specie until the sense of Parliament could be taken. Shortly afterwards, the memorable *Bank Restriction Act* was passed, exempting the bank from paying in cash, and authorizing it to issue notes for £1 and £2 in lieu of gold.

This measure placed the currency of the country under circumstances wholly dissimilar to those that have attended it either before or since. The events of the war, particularly during the seven years that preceded the peace of Paris, opposed greater obstacles to the prosecution of our foreign trade than were ever at any other time put into action, whence gold and silver became the only articles which could be safely taken in exchange for the goods of which we were purchasers from the continent. These metals, especially gold, were besides greatly in demand for the pay of troops. These circumstances, acting in conjunction with the tendency of the Bank Restriction Act, under which the directors were relieved from the dangers that would otherwise have attended an undue expansion of their issues, caused such an enhancement of the prices of the precious metals, when measured by the paper-currency, as forced all our gold coin out of circulation. The difference in value of Bank of England notes and gold, estimated at the Mint price, was for some time trifling, and from 1803 to 1808 was no more than £2:13:2 per cent. But in the seven following years, that excess in value of gold was raised in the following degrees:—1809, £14:7:7 per cent.; 1810, £8:7:8 per cent.; 1811, £20:2:7 per cent.; 1812, £25:16:8 per cent.; 1813, £29:4:1 per cent.; 1814, £14:7:7 per cent.; 1815, £13:9:6 per cent. The fall in the price of gold which occurred in 1814 was brought about by the return to peace, which restored trade to its natural channels; and it was afterwards reduced to its Mint price by the contraction of issues forced upon the bank by Parliament.

The Bank Restriction Act had provided for the return to specie payments within six months after the signature of a treaty of peace ; but, at the peace of Amiens in 1802, this was postponed for a year, on account of the serious inconvenience it would then have caused to trade ; and after the rupture in 1803, the public called loudly for a continuance of the exemption. At the close of the war in 1815 an act was passed, declaring in the preamble that " it was highly desirable that the Bank of England should return as soon as possible to the payment of its notes in cash." The year following, however (1816), being one of commercial distress, the resumption of cash payments was postponed to July 1, 1818 ; and by a further act to July 1, 1819. In the last mentioned year a committee of the House of Commons was appointed to inquire into the subject generally, of which committee Mr (now Sir Robert) Peel was chairman ; and upon the recommendation of their Report the celebrated act (59 Geo. III. c. 49), sometimes called *Peel's Act*, was passed, requiring the Bank after February 1, 1820, to exchange their paper for bullion at certain fixed and graduated prices, and on May 1, 1823, to pay in current gold coin at the Mint rate of £3 : 17 : 10½ per ounce : the latter provision was anticipated in point of time by the bank recommencing payment of their notes in coin on May 1, 1821.

Renewed Charter, August 29, 1833 (3 & 4 Wm. IV. c. 98). The following is a summary of the provisions of this act :—

Section 1. The Bank of England declared to have the exclusive privilege of banking upon the conditions specified in the act.

Section 2. During such privilege, no Company of more than six persons to issue notes payable on demand within London, or sixty-five miles thereof,—but banks beyond that limit may issue bills and notes payable on demand, or otherwise, at the place at which the same shall be issued, and also in London ; but no such bill or note shall be under £5, or be reissued in London, or within sixty-five miles.

Section 3. Any Company of more than six may carry on banking in London, or within sixty-five miles, provided it do not issue its bills or notes payable on demand, or at any less time than six months.

Section 4. All notes of the Bank of England payable on demand which shall be issued out of London shall be payable at the place where issued.

Section 5. The exclusive privileges of the bank may be terminated upon a year's notice given within six months after August 1, 1845, and repayment of the public debt.

Section 6. Bank of England notes are a legal tender (except with respect to the bank itself) so long as the bank shall pay such notes in coin.

Section 7. Bills not having more than three months to run not subject to the usury laws. [This period has since, by temporary acts, been extended to twelve months.]

Section 8. Accounts of bullion, and of notes in circulation, to be sent weekly to the Chancellor of the Exchequer ; and an average state of the bank accounts of the preceding three months shall be published every month in the London Gazette.

Section 9. Public to repay the bank one-fourth part of the debt of £14,686,800.

Section 10. If the proprietors shall so determine, the capital stock of the bank shall be reduced from £14,553,000 to £10,914,750 ; and the difference shall be divided amongst them on October 5, 1834.

Sections 11. 12. Provide for the qualification of directors in the event of the said reduction of stock being made.

Section 13. Bank to deduct £120,000 per annum from sum allowed for management of national debt.

Section 14. Provisions of 39 & 40 Geo. III. to remain in force, except as altered by this act, subject to redemption upon the terms following :—that at any time, upon twelve months' notice, to be given after August 1, 1855, and upon repayment of the public debt, then the said exclusive privileges of banking shall cease and determine.

Capital and Nature of Business.—The repayment of one-fourth of the debt due by the public to the bank was made by an assignment of 3 per cent. stock from the Commissioners for the reduction of the National Debt ; but the proprietors have allowed this sum to remain as available capital in the hands of the directors. Hence the stock of the bank, sometimes called its *permanent capital*, still amounts to £14,553,000, upon which sum the dividend is paid to the proprietors. The real capital of the bank however exceeds this sum by £2,944,000, the amount of the undivided profits, or rest, at 31st March 1840 ; making its total amount £17,497,000. The permanent capital is transferable like government stock ; and its value fluctuates from political causes, as well as from the value of money, and the supposed success of the Company. It is exempted from taxes, accounted personal estate, assignable by unstamped transfer, and not subject to forfeiture, or liable to be taken in execution. The disposable capital under the management of the directors consists of the amount raised by the issue of notes, that held by deposit from government and private parties, and, lastly, undivided profits. The sum of the whole is generally about £30,000,000, of which part is vested in coin and bullion, but a larger part in securities producing interest—such as Exchequer bills and mercantile acceptances. The income of the bank is derived from interest on government securities, discount

on mercantile bills, allowance for managing the public debt, profits on bullion, and agency, amounting altogether to about £1,600,000, which, after deduction of salaries, losses, and duty on notes, forms the fund divisible among the proprietors. The bank is prohibited from engaging in any commercial undertaking other than its legitimate operations, such as the buying and selling of coin or bullion, and bills of exchange. Being, however, authorized, like the Banks of Amsterdam and Hamburg, to make advances on the security of merchandise lodged with it, or pledged to it by written documents, a power is given to the directors to sell the same for their reimbursement.

Management and Internal Regulations.—The chief management is vested in a Governor, Deputy-Governor, and twenty-four Directors elected annually; thirteen or more, of which the governor or deputy-governor must always be one, constitute a court. A governor requires to be possessed of £4000 or upwards of the stock, a deputy-governor £3000, a director £2000, and every elector £500. The directors seldom possess more stock than what is necessary to qualify them for their office. Four general courts of proprietors are held annually, namely, in March or April, July, September, and December. The purpose of these meetings is to make or revise by-laws, to determine questions relating to the institution, and to elect officers—this last usually taking place at the first meeting. Special meetings can be convened at the request of nine or more proprietors qualified as electors.

No account can be opened with the establishment without permission from the directors. If this be granted the bank will then discount approved bills, and receive and pay cash as ordinary bankers; but no deposit-account can be opened with less than £500. No interest is allowed by the bank. The party keeping an account must always have a sum at his credit; and no account is allowed to be overdrawn. Bills or notes (having not more than 95 days to run) including town bills, are now discounted every day instead of once a-week as formerly. But it is a general rule of the bank not to open discount accounts for issuing country bankers and joint-stock banks. It however discounts to such issuing bodies to the extent that may be required to discharge their notes paid into the several branches, and also gives some facilities of a similar kind to banks which afford aid in the collection of the revenue at the time, and to the extent of the aid given. (*Mr G. W. Norman's Evidence*, 1840; *Bank Report*, p. 209.)

A committee of three directors sit daily, and on Thursday the whole court assembles. No important measure is adopted without the assent of the majority of the court; and on particular occasions the directors communicate with the government. These communications are made to the First Lord of the Treasury and the Chancellor of Exchequer, whose opinions are always considered with attention; but they possess no authority for enforcing any change in the bank's arrangements.

The bank's business is divided into two departments; the one under the chief cashier, who transacts the receipts and payments, and issues the notes; the other under the general accountant, who posts these notes as they are issued or paid off, and manages the affairs of the national debt. In 1832 there were employed at the bank 820 clerks and porters, and 38 printers and engravers; and there were also 193 pensioners, chiefly superannuated clerks, who received in pensions £31,243, averaging £161 to each. In the same year the salaries and pensions amounted to £218,003; the house expenses to £39,187; the allowance of the directors was £8000; and the rent of the building was set down at £40,000. The salaries of the officers at the branches amounted to £25,000.

Transactions with Government.—The bank, besides lodging its capital with government, in consideration of the exclusive privileges granted to it, and as a security to the public for payment of its notes, has always performed the ordinary functions of a banker to the state. Since the renewal of the charter in 1833, one-fourth of the *permanent debt* has been repaid, and been thus reduced from £14,686,800 to £11,015,100, upon which interest is at present paid to the bank at the rate of 3 per cent. The bank has, however, been always in the practice of making other considerable advances to government, chiefly in the form of Exchequer bills. Before the exemption from cash-payments in 1797, these advances averaged about £8,000,000; but after that time they increased very considerably, and the general amount in the ten years from 1807 to 1817 was £22,000,000. At present they consist partly of Exchequer bills, but chiefly of a sum of £10,897,880 lent in 1823, to relieve the public finances of the heavy payments on account of the half-pay and pensions due to retired officers, called the "*dead weight*," the consideration granted to the bank, being an annuity of £585,740 for forty-four years until 1867.

The bank acts as the organ of government in paying the dividends on the na-

tional debt, and in receiving and registering transfers of stock from one public creditor to another ; employing in this department about 400 persons. For this service it receives at present about £130,000 yearly. It likewise renders to the Treasury and other public offices, in daily receiving and paying money, the same services as a private banking house does to its customers. During the late war, owing to the large amount of taxes and loans raised for the public service, the balances at the credit of the different government offices amounted to very considerable sums, at one time even so large as £11,000,000 ; in consideration of which the bank agreed to lend government £3,000,000 without interest. At present the public deposits fluctuate commonly between three and four millions, upon which no interest is allowed.

Deposits by Private Parties.—These generally varied from one to two millions until the panic of December 1825 ; but after that time they increased very considerably, and of late years have fluctuated from about four to eight millions. Even this last sum, however, is comparatively small, arising from the fact that the bank directors do not give the same facilities to their customers as is received from private bankers.

Discount of Mercantile Bills.—The bills discounted have varied greatly in amount. When the rate of interest charged by the bank is on a level with the market rate, the number is large, but the reverse when it exceeds that rate. In 1809 and 1810, the average amount of discounts was about seventeen millions. Since the peace, it has seldom exceeded three millions, in consequence of the abundance of money possessed by private bankers, and their charge being commonly lower than that of the other, which is therefore chiefly resorted to for discounts during periods of commercial embarrassment. The annual average of loss by bad debts on discounts was, from 1795 to 1831, both inclusive, £31,696.

Circulation and Regulation of Issues.—No notes under £20 were put into circulation by the bank prior to 1759, in which year notes for £10 were first issued. In 1793, the bank began to issue notes for £5, and £1 and £2 notes were introduced in March 1797, after the bank suspended payment in specie. The issue of the latter, except for a short period at the end of 1825, ceased in 1821 ; and since the 5th April 1829, no bank in England can issue any note under £5 (7 Geo. IV. c. 6). The paper circulated by the bank at present consists of ordinary notes for £5 and upwards, and of bank post bills, drawn commonly at seven days' sight. The amount of the whole is generally about £18,000,000. In 1833 it was estimated that about three-fourths of the bank's paper money circulated in the metropolitan district ; the remaining fourth in the country, particularly Lancashire.

The bank issues are understood to be regulated on the principle that the circulation should be at all times kept full, but without any redundancy, and the means by which this condition of things may be adjusted are, except on extraordinary emergencies, held to be indicated by the state of the foreign exchanges. In the exercise of their powers, however, the directors commonly act with caution. They are aware that under any circumstances a diminution of the currency is unfavourable to trade, lowering the price of commodities, and producing a general dulness in markets. When the foreign exchanges are likely to fall, and it appears incumbent on the bank to contract its issues, the directors profess not to act on opinion, but to wait until an actual demand for gold has been made on the bank. Even then they do not make a direct contraction of their circulation ; they merely forbear to issue notes in the place of those which have been returned by the public for gold. The contraction of the circulation is usually effected by raising the rate of discount for bills, sometimes also by the sale of public or other securities ; an opposite procedure leads of course to an expansion of it.

The bullion, or *cash reserve*, kept by the bank consists chiefly of gold,—silver seldom exceeding one-fifteenth of the whole. The common rule of the directors is to keep in treasure a sum equal to one-third of their liabilities. This proportion has usually been found sufficient ; but the rule is not founded on general principles, and is not closely followed. In ordinary times, and when under a vigilant management, the circulation is limited within the amount which would injuriously affect the foreign exchanges, so large a proportion as one-third cannot be necessary. On the other hand, when by an overissue of paper, prices have been raised so high that gold has become the most profitable commodity for exportation, the experience of the bank has shown that the drain thus arising may be carried to an extent far exceeding the amount necessary to restore the equilibrium of the currency ; while in a commercial panic, more especially when aggravated by a political disturbance, it is difficult to say what quantity of treasure would be found

adequate short of the amount of the bank's whole liabilities. With the view, however, of being provided as far as possible to meet such contingencies, most of the disposable capital is invested in securities which can, if required, be brought to sale in the stock exchange. This is the case not only with exchequer bills and government stock, but with the greatest of all their assets, the annuity on the dead weight, which might, if necessary, be divided or subdivided into portions fitted for the money market.

Branch Banks were first established by the directors in 1826, at the suggestion, it was said, of the late Lord Liverpool, and for the purpose of lessening the inconvenience arising from the frequent discredit of the country banks. The business of these branches principally consists in discounting bills, issuing notes which are payable in London and in the place where they are issued, and in transmitting money to and from the capital. The towns in which they are established are as follows:—Birmingham, Bristol, Gloucester, Hull, Leeds, Liverpool, Manchester, Newcastle-on-Tyne, Norwich, Swansea, Portsmouth, and Plymouth. The managers of the branch banks allow no interest on deposits, nor do they permit any one to overdraw his account; the regulations under which they act having been framed so as to avoid interfering with the business of the local banks. The branches further consult the convenience of these banks by receiving gold from those who happen to hold more than they require, and in supplying it to those who stand in need of it. They also lend Bank of England notes to such as think fit to use them instead of their own, by discounting their bills at 3 per cent. interest. The branches were not expected to be productive of profit to the Bank of England, nor have they proved so.

The Profits of the Bank have in general been steady, though, at least in former times, seldom exceeding a certain moderate limit. In 1694 the dividend was 8 per cent.; and in 1695, 9 per cent. From that year to 1729, it fluctuated between $5\frac{1}{2}$ and 9 per cent. From 1729 to 1747, the rate was $5\frac{1}{2}$ to 6 per cent.: from 1747 to 1753, 5 per cent.; in 1753 it fell to $4\frac{1}{2}$ per cent. After 1767 the dividend was gradually raised to 7 per cent., at which rate it continued till 1805. Before the latter period, however, the exemption of cash-payments in 1797 had increased the income of the bank in two ways; by extending its circulation, and by saving it the interest sacrificed till then in keeping a stock of bullion. Of the additional profits thus derived, $57\frac{1}{2}$ per cent. was distributed among the proprietors in the form of bonuses, as follows:—10 per cent. in 1799, 5 per cent. in 1801, $2\frac{1}{2}$ per cent. in 1802, 5 per cent. in 1804, 5 per cent. in 1805, and 5 per cent. in 1806. These making $32\frac{1}{2}$ per cent. were paid to the proprietors; and in 1816, an additional 25 per cent was carried to the credit of each of them in the bank books; thus increasing the capital from £11,642,400 to £14,553,000. Besides these extra allowances, the bank's ordinary dividend was increased in 1805 from 7 to 12 per cent., which rate was paid in 1805 and 1806. In 1807, it was reduced to 10 per cent. which continued until 1832; after which, from a decrease on the profits consequent on the recall of the small notes, and the resumption of cash payments, it was further reduced to 8 per cent. In 1839, a still further reduction was made to 7 per cent., at which rate it has since continued.

The Rest, or Surplus of Undivided Profits, was about £3,000,000 until 1797, after which it increased gradually to eight millions, and led in 1816 to the above mentioned bonus of 25 per cent. It was further reduced in 1817 and 1818 by the expense incurred by the bank in procuring gold from abroad. Its general progress is shown in the annexed statement, from which it will be seen that its present amount is nearly £3,000,000.

Accounts.—The practice of the Bank of England in former times, like the banks of Venice and Amsterdam, was to observe strict secrecy in regard to its accounts, considering this as important to its prosperity. After 1797, the directors reported regularly to government the amount of notes in circulation, which was afterwards published in the newspapers; but every thing else was kept secret until 1832, when the Report of the Parliamentary Committee on bank affairs gave to the public much information which, until then, had been considered confidential. Of the accounts then published, there is given below a State of its Liabilities, Assets, and Rest, for a series of years since 1780, with continuation, adding for each quarter, commencing with 1834, a statement of the average amount of the Issues, Deposits, Securities, and Bullion of the bank, according to the accounts which the directors are now required to publish in the London Gazette, in terms of act 3 & 4 Wm. IV. c. 98.

**Account of the Liabilities, Assets, and Rest or Amount, of Undivided Profits of
the Bank of England in the following years:—**

		Liabilities.		Assets.				Rest or undivided Profits.
		Circulation.		Deposits.	Securities.		Bullion.	
		Notes under L.S.	Other Notes in Possession		Public.	Private.		
		£	£	£	£	£	£	£
1790	Feb. 20	..	8,410,790	4,723,820	9,143,820	1,755,371	3,881,860	1,347,430
1790	Feb. 20	..	8,383,000	6,070,100	7,100,644	4,073,995	2,740,000	2,321,000
1790	..	..	10,000,540	8,223,270	4,347,307	1,004,733	8,633,000	2,701,310
1791	..	..	11,470,200	6,074,550	10,000,350	2,792,202	7,000,410	2,050,350
1792	..	..	11,307,300	5,523,720	9,900,700	3,199,761	6,460,000	2,715,070
1793	..	..	11,000,010	5,340,450	9,540,000	6,456,041	6,010,000	2,700,370
1794	..	..	10,744,000	7,001,010	9,950,700	4,573,704	6,007,110	2,075,000
1795	..	..	14,077,510	8,073,200	13,104,170	3,647,100	6,127,720	2,940,310
1796	..	..	10,770,500	5,700,700	12,951,010	4,100,000	2,530,000	1,247,000
1797	..	..	9,074,700	4,001,500	11,714,410	5,123,110	1,000,170	3,357,000
1797	Aug. 31	807,000	10,840,500	7,705,350	8,705,204	9,400,000	4,000,000	3,471,000
1798	Feb. 20	1,440,000	11,647,410	6,140,000	11,241,333	8,550,100	8,500,000	3,303,710
1799	..	1,405,000	11,404,100	8,131,000	11,510,077	8,500,000	7,663,000	3,511,310
1800	..	1,471,540	13,170,000	7,000,000	13,971,003	7,440,000	6,144,000	3,661,100
1801	..	2,674,700	13,570,000	10,745,000	15,950,011	12,400,710	4,640,000	4,105,700
1802	..	2,610,000	12,570,000	6,650,210	14,100,000	7,700,700	4,100,000	4,007,000
1803	..	2,900,000	12,300,000	8,000,000	9,417,000	14,400,000	3,776,700	4,371,000
1804	..	4,531,070	12,540,000	8,070,000	14,000,000	12,114,000	3,374,100	4,610,000
1805	..	4,000,000	13,111,100	10,000,000	16,000,000	11,771,000	5,000,000	4,500,000
1806	..	4,450,000	13,271,500	9,000,000	14,813,000	11,777,000	4,907,100	4,007,000
1807	..	4,100,000	12,840,700	11,000,000	13,452,071	13,000,000	6,140,000	4,771,000
1808	..	4,000,000	14,000,000	11,000,000	14,100,000	13,200,000	7,000,000	4,000,000
1809	..	4,001,000	14,001,000	9,000,000	14,700,000	14,700,000	4,000,000	4,000,000
1810	..	5,000,000	15,100,000	10,000,000	14,300,000	14,300,000	4,000,000	4,000,000
1811	..	7,114,000	16,340,100	11,440,000	17,201,000	19,000,000	3,300,000	4,000,000
1812	..	7,457,000	15,351,000	11,500,000	22,100,000	15,000,000	2,000,000	4,000,000
1813	..	7,710,000	15,407,000	11,000,000	25,000,000	18,000,000	6,000,000	4,000,000
1814	..	8,345,540	16,450,000	12,000,000	23,000,000	18,000,000	2,000,000	4,000,000
1815	..	9,000,000	18,200,000	11,700,000	27,510,000	17,000,000	9,000,000	7,000,000
1816	..	9,001,000	18,100,000	12,000,000	23,000,000	23,000,000	4,000,000	4,000,000
1817	..	8,100,000	17,000,000	10,000,000	25,000,000	8,700,000	9,000,000	4,000,000
1818	..	7,400,000	17,000,000	7,000,000	20,000,000	3,000,000	10,000,000	3,100,000
1819	..	7,000,000	17,000,000	6,000,000	22,000,000	9,000,000	4,000,000	4,000,000
1820	..	6,000,000	16,000,000	4,000,000	21,000,000	4,000,000	3,000,000	4,000,000
1821	..	6,400,000	17,400,000	5,000,000	16,000,000	4,000,000	11,000,000	3,100,000
1822	..	1,374,000	17,000,000	4,000,000	18,000,000	3,400,000	11,000,000	3,000,000
1823	..	001,000	17,000,000	7,101,000	13,000,000	4,000,000	10,000,000	3,000,000
1824	..	000,100	19,000,000	10,000,000	14,000,000	4,000,000	10,000,000	3,000,000
1825	..	410,700	19,000,000	10,100,000	19,447,000	5,000,000	10,000,000	3,000,000
1826	..	200,300	19,000,000	6,000,000	17,400,000	7,000,000	6,000,000	3,000,000
1827	..	1,375,000	24,000,000	6,000,000	20,000,000	12,000,000	2,000,000	4,000,000
1828	..	1,401,000	20,000,000	7,000,000	17,000,000	7,000,000	6,000,000	3,000,000
1829	..	001,000	21,000,000	8,000,000	18,000,000	4,000,000	10,000,000	3,000,000
1830	..	410,000	21,000,000	9,000,000	19,000,000	3,000,000	10,000,000	2,000,000
1831	..	500,000	20,000,000	9,000,000	19,000,000	5,000,000	8,000,000	2,000,000
1832	..	300,000	19,000,000	10,000,000	20,000,000	4,000,000	8,000,000	2,000,000
1833	..	000,100	17,000,000	8,000,000	18,000,000	5,000,000	8,000,000	2,000,000
1834	July 30	..	19,110,000	18,075,000	20,000,000	20,000,000	8,000,000	2,315,000
..	Oct. 31	..	18,914,000	15,514,000	27,000,000	27,000,000	7,123,000	2,535,000
1835	Jan. 10	..	18,010,000	12,505,000	20,000,000	20,000,000	6,741,000	2,534,000
..	April 7	..	18,501,000	11,000,000	20,000,000	20,000,000	6,300,000	2,077,000
..	July 30	..	18,300,000	11,000,000	20,000,000	20,000,000	6,000,000	2,000,000
1836	Jan. 10	..	17,000,000	14,227,000	20,000,000	20,000,000	6,100,000	2,000,000
..	April 8	..	17,000,000	14,701,000	20,000,000	20,000,000	7,001,000	2,014,000
..	July 30	..	17,000,000	14,000,000	20,000,000	20,000,000	8,000,000	2,000,000
1837	Jan. 10	..	17,000,000	14,354,000	20,000,000	20,000,000	8,000,000	2,000,000
..	April 4	..	18,400,000	11,100,000	20,000,000	20,000,000	4,000,000	2,000,000
..	July 30	..	18,000,000	10,000,000	20,000,000	20,000,000	5,000,000	2,000,000
1838	Jan. 10	..	17,000,000	10,500,000	20,000,000	20,000,000	6,000,000	2,000,000
..	April 3	..	18,000,000	11,000,000	20,000,000	20,000,000	10,000,000	2,000,000
..	July 30	..	19,000,000	10,000,000	20,000,000	20,000,000	8,000,000	2,000,000
1839	Jan. 10	..	18,000,000	10,000,000	20,000,000	20,000,000	9,000,000	2,000,000
..	April 3	..	18,000,000	8,000,000	20,000,000	20,000,000	7,000,000	2,000,000
..	July 30	..	18,000,000	7,000,000	20,000,000	20,000,000	8,000,000	2,000,000
1840	Jan. 7	..	16,000,000	7,000,000	20,000,000	20,000,000	3,000,000	2,000,000
..	April 30	..	16,000,000	7,000,000	20,000,000	20,000,000	4,000,000	2,000,000
..	July 31	..	16,000,000	7,000,000	20,000,000	20,000,000	4,000,000	2,000,000

1. The returns since 1834 are formed upon the average of the preceding quarter. The amounts on each Saturday night, for thirteen weeks in succession, are added together, and the sum divided by thirteen; this gives the average of the quarter. Hence these returns do not show the *progress of the affairs of the Bank during the quarter*. For instance, the amount of notes in circulation may be high in the beginning of the quarter, and low at the end of the quarter, or the reverse; or the amounts may be low at both the beginning and the end, and high in the middle of the quarter, or the reverse—and yet all these cases may produce the same average.

2. "The circulation" includes the notes of the head-office, and of all the branches; it also includes the Bank Post Bills issued at the former, and the drafts drawn by the branches upon the parent establishment, or upon each other. The bank did not publish the branch circulation separately until the year 1840, when it was furnished to the Parliamentary Committee on Banks of Issue, from whose Report it appears to have fluctuated in the years 1838 and 1839 from £3,723,000 to £4,397,000.

3. The deposits include those at the head-office and all the branches.

4. The securities also include those at the head-office and at the branches: they are formed of bills under discount, Exchequer bills, the dead weight, and other government securities, loans on mortgage, &c.

5. The bullion includes both gold and silver, whether coined or uncoined, and whether at the head-office or the branches.

6. The difference between the liabilities and the assets forms the "rest," or surplus capital, arising out of accumulated profits, and which is over and above the capital of £14,563,000, upon which the dividends are paid to the proprietors.

The defects of the quarterly returns have been supplied by the last report of the Committee on Banks of Issue (*Par. Paper of 7th August 1840, No. 602*), the Appendix to which contains a weekly statement of the liabilities and assets of the bank from March 1832 to March 1840. The following is a copy of the last of these statements:—

BANK OF ENGLAND, March 31, 1840.

<i>Liabilities.</i>	<i>Assets.</i>
Circulation:	Public Securities:
London.....£12,446,000	Advances on Exchequer Bills:
Country..... 3,962,000	Deficiency.....£340,000
16,398,000	Other Exchequer bills.. 481,000
Deposits, Public, viz.:	Exch. Bills purchased..1,050,000
Exchequer Account..... 806,000	Stock and Annuities..10,132,000
For payment of dividends 393,000	12,003,000
Savings Banks..... 18,000	Private Securities:
West India Compensation	Bills discounted:
Other public accounts...1,187,000	London..... 791,000
2,404,000	Country.....3,275,000
Deposits, Private, viz.:	4,066,000
London Bankers..... 740,000	East India Bonds..... ..
East India Company..... 603,000	City Bonds, &c.....1,350,000
Loan from ditto..... ..	Mortgage.....1,296,000
Bank of Ireland, & Royal	Advances:
Bank of Scotland..... 70,000	Bills of Exchange.....2,267,000
Other deposits.....2,141,000	Exch. Bills, Stock, &c. 335,000
Deposits at Branches.... 472,000	5,257,000
4,026,000	£21,326,000
£22,828,000	Bullion.....4,446,000
	£25,772,000

IV. LONDON BANKERS.—The private bankers in London were formerly the goldsmiths, as already noticed, who, after a time, gradually relinquished their original pursuit and became exclusively bankers. They issued notes, and continued to do so even after the establishment of the Bank of England; but from this branch of business they have long since withdrawn. There are at present fifty-four private banking-houses in London, and of these, three, namely, Messrs Child and Company, Messrs Hoares and Company, and Messrs Snows and Company, were in existence before the Bank of England. Their business chiefly consists in acting as depositaries of money, discounting bills, and officiating as agents for banks out of London. They allow no interest on deposits; but, on the other hand, they charge no commission for paying the drafts of those who keep accounts, or for the trouble of presenting their cheques and bills for payment; the balance at their credit being considered a sufficient remuneration for keeping the account, and this balance is expected to be large or small, according to the number, amount, and nature of the transactions. They likewise afford considerable facilities to their customers, both in discounting bills, and by temporary loans, with or without security, according to circumstances. Bills for other parties are commonly discounted through the medium of brokers. This branch of business they transact with great advantages as to security, from the unreserved confidence which they are accustomed to place in one another as to the credit of their respective customers.

"The deposits held by the London bankers are generally composed of very large sums, which are necessarily payable on demand; and hence they cannot be made use of to the same extent as those which are intrusted to country bankers, and which, whenever interest is allowed, are usually

left with them for a stipulated period." "The London banks, in order to be able to meet their engagements, usually keep a large deposit, nearly equal perhaps to half of what they hold in reserve in the Bank of England; a portion of their current funds they necessarily hold at home in bank-paper, and a small amount in gold." "In order to turn their funds to profit, the London bankers employ as much money as they can amongst their customers. They invest a considerably larger proportion of their deposits in bills of exchange and promissory notes than in public securities. The city banker is, however, under a disadvantage in this respect which is not felt by the banker at the west end of the town. The latter may, to a certain extent, depend upon the use of the money deposited with him, as his accounts are usually those of country gentlemen and individuals out of trade; whereas the former, whose accounts are principally those of persons actively engaged in commercial or money operations, can hardly know three days beforehand what the amount of his deposits may be at any given period. The London bankers are obliged to employ their money occasionally at a very low rate of interest." (*Mr Glyn's Evidence, 1832.*)

The *Clearing-House* was instituted by the London bankers about the year 1775, in order to save the time, risk, and inconvenience of sending round to each other for payment of the numerous cheques which they daily receive from their customers.

"In a large room in Lombard Street, about thirty clerks from the several London bankers take their stations, in alphabetical order, at desks placed round the room; each having a small open box by his side, and the name of the firm to which he belongs in large characters on the wall above his head. From time to time other clerks from every house enter the room, and, passing along, drop into the box the cheques due by that firm to the house from which this distributor is sent. The clerk at the table enters the amount of the several cheques in a book previously prepared, under the name of the bank to which they are respectively due." "At four o'clock all the boxes are removed, and each clerk adds up the amount of the cheques put into his box and payable by his own to other houses. He also receives another book from his own house, containing the amounts of the cheques which their distributing clerk has put into the box of every other banker. Having compared these, he writes out the balances due to or from his own house opposite the name of each of the other banks; and having verified this statement by a comparison with the similar list made by the clerks of those houses, he sends to his own bank the general balance resulting from this sheet, the amount of which, if it is due from that to other houses, is sent back in bank notes. At five o'clock the inspector takes his seat; when each clerk, who has, upon the result of all the transactions, a balance to pay to various other houses, pays it to the inspector, who gives a ticket for the amount. The clerks of those houses to whom money is due, then receive the several sums from the inspector, who takes from them a ticket for the amount. Thus the whole of these payments are made by a double system of balance, a very small amount of bank notes passing from hand to hand, and scarcely any coin."

"It is difficult to form a satisfactory estimate of the sums which daily pass through this operation: they fluctuate from two millions to perhaps fifteen. About two millions and a half may possibly be considered as something like an average, requiring for its adjustment perhaps £200,000 in bank notes, and £20 in specie. By an agreement between the different bankers, all cheques which have the name of any firm written across them must pass through the clearing-house; consequently, if any such cheque should be lost, the firm on which it is drawn would refuse to pay it at the counter; a circumstance which adds greatly to the convenience of commerce. The advantage of this system is such, that two meetings a-day have been recently established—one at twelve, the other at three o'clock; but the payment of balances takes place once only, at five o'clock. If all the private banks kept accounts with the Bank of England, it would be possible to carry on the whole of these transactions with a still smaller quantity of circulating medium." (*Babbage's Economy of Machinery and Manufactures.*)

The establishment of the clearing-house has led to new arrangements in several branches of business. The stockbrokers for instance now settle all their receipts and payments by cheques, to be paid through the clearing-house: the cheques which a broker draws on his banker being paid by the cheques of other brokers which he lodges to his credit. The colonial brokers and other classes have fixed days for settling their accounts, and on these days draw cheques on their bankers in the morning, and deposit others to meet them at a subsequent part of the day. The institution of the clearing-house has thus become entwined with the general commerce of the country.

Metropolitan Joint-stock Banks.—Of late years several extensive joint-stock banks have been established in the capital, as the *London and Westminster*, the *London Joint-stock*, the *Metropolitan*, the *Union*, and others. These banks conduct their business in some respects differently from the private bankers, particularly in reference to deposits on which they allow interest; charging likewise a commission upon the drawing accounts instead of requiring a balance. They are viewed with jealousy by the Bank of England as well as the private bankers, by whom they are excluded from the clearing-house; but being powerfully supported, they have been enabled successfully to meet this opposition; and it is considered probable that their number will increase.

V. ENGLISH PROVINCIAL BANKS.—The act of 1708 exercised an unfavourable influence upon the banking business out of London, the prohibition of the number of partners to six, having, as already noticed, been understood to apply not to banks of issue alone, but to banks of all kinds. At the time the enactment took place, and for many years after, the extent of injury arising from it was not perceived, as there were few provincial banks in England, and consequently few failures among them; but during the greater part of the last half century, the case has been very different. After 1770, the increase of town population, consequent on the progress

ton and iron manufactures, occasioned an addition to the number of banks ; during the ten years of prosperity and peace (1783-93) which followed the close of the American war, they multiplied with great rapidity. The sudden check, which was given to trade by the transition from peace to war in 1793, fell on the provincial banks, and by causing twenty-two of them to declare insolvency in one year, brought into view the pernicious effect of the act of 1797, when their number was about 280, leave was given to them, as well as to the Bank of England, to issue £1 and £2 notes. This privilege having been given with the important one of not paying their notes in cash, an extraordinary change of their business suddenly took place ; and between 1797 and 1814 their number increased to 900. In the course of the three years 1814, 1815, and 1816, ninety insolvencies occurred, and an equal number of dissolutions of partnership, which reduced the number of banks to between seven and eight hundred. Near the close of speculation, 1825, their number again increased, but it was once more reduced by the failure of eighty in that and the following year. These stoppages, and the injury which resulted from them, at last forced the defective constitution of the provincial banks upon the attention of the government, and this more particularly from the contrast presented by the state of banking in Scotland, where, for the last half of a century, scarcely a single bank of issue had proved insolvent in consequence chiefly of the non-existence of the limitation in question. Accordingly, in 1825, the act 7 Geo. IV. c. 46, was passed, allowing joint-stock banks to be established in all places beyond the metropolitan district, it being at the same time provided (7 Geo. IV. c. 46, § 15) that the Bank of England should establish a new issue, and that notes under £5 should be withdrawn from circulation by April 5, 1826. By a subsequent act in 1833, the provincial banks were allowed to tender Bank of England notes instead of gold in exchange for their notes.

Statutory Regulations.—These are principally embodied in 7 Geo. IV. c. 46, and 4 Wm. IV. c. 83, already noticed.

The first statute mentioned, enacts (§ 1), that copartnerships or societies, though consisting of less than six persons, may be bankers in England, and may issue notes, provided such copartnership shall have the whole of their banking establishments beyond sixty-five miles from London, and that all the partners are liable for the whole debts of the bank ; and (§§ 4, 5) that a return be made to the Stamp-office, before commencing business, and between the 28th February and 25th March annually, of the name of their firm, of the names and places of abode of all their partners, of the places where the banks are established, and of two or more of their number who shall have been appointed public officers, which returns shall be open for the inspection of the public on payment of one shilling for every search. (§ 8) Special returns must be made of any additional public officers, of all retiring and newly-appointed partners, and of any new agencies. (§ 9) Such companies are entitled to sue and be sued in the name of their public officers ; and (§ 13) when judgment is obtained against such public officers, execution may be issued against any member of the copartnership. (§ 16) The banks are allowed to compound for the stamp-duty on their notes at the rate of 7s. per annum for every £100 in circulation. (§ 17) If a company issuing notes has two, three, or four places of issue, a license is required for each ; but four licenses will suffice for any number of places of issue. (§ 18) A company delaying to make the said return to the Stamp-office forfeits £500 per week during the delay, and, if a false return is made, is forfeited by them, and £100 by the officer who makes the return.

The statute 3 & 4 Wm. IV. c. 83, enacts (§ 1), that partnerships and persons carrying on banking business and issuing notes shall make returns to the Stamp-office, London, of the average amount of notes in circulation in the quarters ending January 1, April 1, July 1, and October 1, of each year ; the quarterly average to be formed from the amount in circulation at the end of each week ; such returns to be verified on oath, and to be made under a penalty for default of £500. Banks of more than six persons may draw on any agent in London on demand, or otherwise, for any sum not exceeding £50, notwithstanding the provision to the contrary in the act 7 Geo. IV. c. 46.

Temporary acts, 1 & 2 Vict. c. 96, and 3 & 4 Vict. c. 111, contain provisions applicable to legal proceedings by joint-stock banking companies against their own members, and by such members against the companies. The 3 & 4 Vict. c. 111, likewise provides for the punishment of members of banking companies embezzling notes, &c.

The statute 55 Geo. III. c. 184, imposed the following stamp-duties on the notes of country banks ; namely—not exceeding £1, 1s.,—5d. ; exceeding £1, 1s. and not exceeding £2, 2s.,—10d. ; £2, 2s. to £5, 5s.,—1s. 3d. ; from £5, 5s. to £10, —1s. 9d. ; from £10 to £20, —2s. ; from £20 to £30, —3s. ; from £30 to £50, —5s. ; from £50 to £100, —8s. 6d.

Mode of Business.—All the provincial banks discount bills, grant advances or loans on accounts, effect remittances, and receive deposits on which they allow interest ; but their mode of transacting business is not uniform.

On current accounts, they allow from 2½ to 4 per cent. interest,—a commission of ½ per cent. charged on all sums paid by the bank, besides from 4 to 5 per cent. interest on overdrafts ; practices in this respect, however, differ much in different districts. Advances are often made without security, but more commonly upon a promissory note by the party with sureties ; sometimes upon bonds, and the lodgement of title-deeds. The rate of interest allowed on deposits varies from about 2 to 3 per cent., and notice is in general required before any considerable sum is withdrawn. Current or drawing accounts are balanced half-yearly ; and bills lodged by customers having such accounts, are passed to their credit, as on June 30, and December 31. English

bills are always made payable at a London bank, a circumstance which facilitates their circulation, and enables provincial bankers more readily to meet any exigency by rediscounting them. The London agent of a provincial bank is paid for his trouble either by a certain amount being allowed to remain in his hands without interest, by a commission on his payments, or by a fixed annual sum.

Most of these banks issue notes which are often made payable at their London agent's establishment, as well as at their own. The profits from this source were reduced by the suppression of those under £5, which, prior to 1829, formed about one-half of the circulation; but the reduction is estimated at only 30 per cent., owing to the larger amount of other notes since taken by the public.

There are exchanges of notes between the banks in the country towns either once or twice a-week as may be arranged, and the balance is paid by an order at sight upon London. The system of exchanges is less comprehensive than in Scotland; but in that part of the island, the circulation of the larger banks is very widely diffused through their numerous branches; whereas, the country circulation of England pretty much divides and restricts itself to particular districts, and within which, in each case, the issues of the several banks almost exclusively circulate. Any notes that find their way beyond such limits are of trifling amount, and are speedily returned to the banks by whom they were issued, or their London agents.

Account showing the Amount of Notes circulated in England and Wales by Private Banks, and Joint-stock Banks and their Branches, from Returns under 3 & 4 Wm. IV. c. 83.

Quarters to	Private.	Joint Stock.	Total	Quarters to	Private.	Joint Stock.	Total
£	£	£	£	£	£	£	£
1833. Dec. 28	8,836,063	1,315,301	10,151,364	1837. April 1	7,275,784	3,755,879	11,031,663
1834. March 29	8,773,400	1,450,427	10,223,827	— July 1	7,187,673	3,684,764	10,872,437
— June 28	8,875,735	1,642,687	10,518,422	— Sept. 30	6,701,996	3,444,053	10,146,049
— Sept. 27	8,370,423	1,781,680	10,152,103	— Dec. 30	7,043,470	3,824,665	10,868,135
— Dec. 26	8,537,655	2,122,179	10,659,834	1838. March 31	7,045,472	3,711,002	10,756,474
1835. March 28	8,231,208	2,381,054	10,612,262	— June 30	7,383,247	4,362,256	11,745,503
— June 27	8,455,114	2,184,667	10,639,781	— Sept. 29	7,043,811	4,281,151	11,324,962
— Sept. 26	7,912,587	2,548,036	10,460,623	— Dec. 31	7,899,442	4,625,546	12,524,988
— Dec. 25	8,314,063	2,790,521	11,104,584	1839. March 30	7,642,114	4,617,363	12,259,477
1836. March 26	8,353,894	3,004,025	11,357,919	— June 29	7,610,708	4,663,110	12,273,818
— June 25	8,614,137	3,568,064	12,182,201	— Sept. 28	6,917,657	4,167,313	11,084,970
— Sept. 24	7,764,824	3,901,121	11,665,945	— Dec. 27	7,251,678	4,170,767	11,422,445
— Dec. 31	7,783,500	4,258,197	12,041,697	1840. Mar. 26	6,893,112	3,940,232	10,833,344

ENGLISH PROVINCIAL JOINT STOCK BANKS.

(The capital, and the circulation of these banks which issue notes, are stated according to the House of Commons Report for 1836, Par. Paper No. 491, and their Report for 1837, P. P. No. 431. The number of partners and branches* are shown for 1836, according to Returns to the House of Commons in that year, P. P. No. 530.)

Designation.	Head Office.	Part-ners	Branch-es	Ad-van-ced Capital, 1836-37	Circulation to Quarter in Dec. 31, 1836
				£	£
Ashton, Staleybridge, Hyde & Glossop B. Banking Company.	Ashton	1836 292	0	20,330	8,947
Barnsley Banking Company.	Barnsley..	1839 111	0	25,160	9,706
Bilston District Banking Company.	Bilston..	1836 131	0	27,375	22,379
Birmingham Banking Company.	Birmingham..	1837 465	0	80,000	73,785
.. .. Bank of .. ..	.. ..	1832 240	0	73,785	.. ..
.. .. Town and District Bank Co. .. ..	.. ..	1836 307	0	.. ..	.. ..
.. .. and Midland Bank. .. ..	.. ..	1836 180	0	36,400	.. ..
.. .. Borough Bank. .. ..	.. ..	1837 0	0	.. ..	.. ..
Bolton, Bank of	Bolton..	1830 103	0	20,670	33,012
Bradford Banking Company.	Bradford..	1827 165	0	77,900	20,575
.. .. Commercial Joint-stock Bg. Co. .. ..	.. ..	1833 150	0	44,195	104,352
Bristol Old Bank	Bristol	1829 7	0	140,000	8,250
Bury Banking Company	Bury..	1830 140	0	63,925	6,907
Bury and Heywood Banking Company.	.. ..	1836 48	0	.. ..	.. ..
Carlisle and Cumberland Banking Co.	Carlisle..	1836 275	2	50,950	22,625
Carlisle City & District Banking Company	.. ..	1837 315	1	.. ..	16,253
Cheltenham & Gloucestershire Bank.	Cheltenham..	1834 157	1	22,625	113,597
Chesterfield & North Derbyshire Bank. Co.	Chesterfield..	1832 96	0	23,380	87,494
Commercial Bank of England	Manchester..	1834 627	18	207,485	31,225
County of Gloucester Bank.	Gloucester ..	1836 276	8	176,750	18,439
Coventry and Warwickshire Banking Co.	Coventry..	1815 276	1	43,490	36,870
Coventry Union Banking Company ..	.. ..	1836 152	4	32,700	73,285
Cumberland Union Banking Company	Workington..	1829 149	5	16,810	27,656
Darlington District Joint-stock Bank. Co.	Darlington..	1832 341	14	55,425	110,762
Derby and Derbyshire Banking Company	Derby	1834 187	1	40,900	42,030
Devon and Cornwall Banking Company ..	Plymouth ..	1832 150	14	56,820	84,574
Dudley and Westbromwich Banking Co.	Dudley	1833 179	1	32,325	.. ..
East of England Bank.	Norwich..	1836 501	26	156,325	76,132
Glamorganshire Banking Company ..	Swansea..	1836 182	1	32,500	.. ..
Gloucestershire Banking Company.....	Gloucester..	1831 258	5	100,000	.. ..
Gloucester County and City Bank. ..	.. ..	1833 ..	..	14,720	.. ..
Halifax Joint-stock Banking Company.	Halifax.....	1834 207	0	44,475	26,366
.. .. Commercial Banking Company .. ..	.. ..	1836 164	0	65,000	13,348
.. .. and Huddersfield Banking Co. ..	.. ..	1836 324	1	83,775	44,540

* The number of branches, though taken from a return made by the Stamp-office, is not always accurate, as it is a common practice of the banks to insert in their licenses places where circumstances may induce them to establish branches, but where none were in existence at the time the license was granted.

Designation.	Head Office.	Year founded	No. of Branches	Capital £100,000	Reserves £100,000
Derbyshire Banking Company	Southampton .	1834	172	20,445	20,445
Devon Banking Company	Holston .	1835	17	4,120	2,886
Devonshire Banking Company	Haverford .	1836	131	30,280	
Huddersfield Banking Company	Huddersfield .	1837	270	65,180	30,580
East Banking Company	Hull .	1838	240	41,000	74,000
Imperial Bank of England	Manchester .	1836	654	73,800	
Leamington and Claro Banking Co.	Leamington .	1837	101	21,000	37,244
Leamington Banking Company	Leamington .	1838	135	60,750	48,701
Leamington Bank	Leamington .	1833	167	40,125	887
Leamington & Warwickshire Bg. Co.	Leamington .	1833	104	22,000	34,145
Leeds Banking Company	Leeds	1832	309	120,450	34,193
Leeds & West Riding Banking Company	Leeds	1833	224	87,725	37,090
Commercial Banking Company	Leeds	1836	221	80,000	21,975
Leicestershire Banking Company	Leicester	1837	144	40,440	35,322
Lichfield, Rugby, & Tamworth Bank Co.	Lichfield	1835	150	26,000	
Lincoln & Lindsey Banking Company	Lincoln	1833	230	83,510	67,050
Liverpool, Bank of	Liverpool	1831	579	300,170	
Commercial Banking Company	Liverpool	1832	306	330,900	
Union Bank of	Liverpool	1835	300	257,700	
Traders' Bank	Liverpool	1836	413	94,375	
Albion Bank	Liverpool	1836	354		
Royal Bank of	Liverpool	1836	257	332,900	
Banking Company	Liverpool	1836	192		
United Traders' Bank	Liverpool	1836	224	106,700	
Borough Bank	Liverpool	1836	601	208,225	
Central Bank of	Liverpool	1836	40	5,700	
Phoenix Bank	Liverpool	1837	136		
Manchester, Bank of	Manchester	1829	600	741,000	130,300
Manchester & Liverpool District Bank	Manchester	1835	187	749,700	616
Union Bank of	Manchester	1835	411	156,425	
Manchester & Salford Bank	Manchester	1836	225	271,000	
Monmouth and Glamorgan Bank Co.	Newport	1836	328	120,500	32,679
Monmouth & Robtson Nottingham Bg. Co.	Nottingham	1836	157	51,282	22,453
National Provincial Bank of England	London	1833	712	267,635	260,400
Newcastle-on-Tyne Joint stock Bank Co.	Newcastle	1836	56	20,317	2,056
Newcastle, Shields, and Sunderland Union	Newcastle	1836	400	115,100	80,700
Joint stock Banking Company	Newcastle	1836	162	70,425	6,772
Newcastle Commercial Banking Company	Newcastle	1836	316	47,600	32,657
Northamptonshire Banking Company	Northampton	1836	490	117,500	82,770
Northampton Bank	Northampton	1834	1000	711,000	303,400
Northern and Central Bank of England	Manchester	1837	610	240,000	105,670
North of England Joint stock Banking Co.	Newcastle	1836	476	15,360	52,350
North & South Wales Bank	Liverpool	1836	303	123,000	
Northumberland & Durham District Bank	Newcastle	1835	220	37,075	60,100
North Wales Banking Company	Wrexham	1834	374	81,450	52,500
Nottingham and Nottinghamshire Bank Co.	Nottingham	1836	50	10,210	2,200
Nottingham Banking Company	Nottingham	1837	53	16,350	30,175
Pure Leicestershire Banking Company	Leicester	1833	107	30,850	20,790
Raddleworth Banking Company	Raddleworth	1831	210	92,170	35,770
Sheffield Banking Company	Sheffield	1836	620	114,000	18,771
Sheffield & Hallamshire Banking Company	Sheffield	1836	275	33,100	40,000
Sheffield & Rotherham Joint stock Bg. Co.	Sheffield	1836	270	40,215	60,500
Shropshire Banking Company	Shrewsbury	1837	100	44,000	60,740
Standard, Spalding, & Boston Banking Co.	Stockport	1836	313	66,625	
Stockport, Bank of	Stockport	1836	122		
Stockton and Durham County Bank	Stockton	1834	195	45,000	67,107
Stourbridge & Alderminster Banking Co.	Stourbridge	1834	47	65,000	200,070
Stourbridge Banking Company	Bristol	1836	302	15,210	
South Lancashire Bank	Manchester	1835	7	17,500	6,500
South Wales Bank of	Cardiff	1837	100		
Southern District Banking Company	Southampton	1836	145	30,575	
Sunderland Joint stock Banking Company	Sunderland	1836	218	30,325	
Sunderland & Wensleydale Banking Comp.	Richmond	1832	196	44,000	10,000
Wakefield Banking Company	Wakefield	1835	149	30,575	16,000
Walsall & South Staffordshire Bank of	Walsall	1834	111	32,000	43,500
Warwick & Leamington Banking Company	Warwick	1832	400	63,000	4,360
West Riding Union Banking Company	Huddersfield	1833	150	21,450	21,375
Westmoreland, Bank of	Kendal	1834	565	215,500	70,400
West of England and South Wales District	Bristol	1836	362	30,000	17,000
Western District Banking Company	Plymouth	1836	442	63,100	74,970
White and Dorset Banking Company	Salisbury	1837	220	20,000	48,331
Whitehaven Joint stock Banking Company	Whitehaven	1837	121		
Bank of	Whitehaven	1831	270	50,000	51,220
Wolverhampton & Staffordshire Bank Co.	Wolverhampton	1830	263	75,000	94,500
York City and County Banking Company	York	1833	271	63,000	81,000
Union Banking Company	York	1834	1000	300,000	231,483
Yorkshire District Bank	Leeds	1836	610	72,075	16,720

VI. SCOTTISH BANKS.—The introduction of banking into Scotland took place in 1695, in which year the *Bank of Scotland* was founded, with a capital of £100,000 sterling (or £1,200,000 Scots); but such was then the poverty of the country, that not more than £30,000 were for a considerable time called up, and a large portion even of this sum was advanced by natives of Holland, Hamburg, and England. It remained the only bank until 1727, when the *Royal Bank* was established by the subscription of £111,347 : 19 : 10 of the stock of the Equivalent Company, an association which acquired right to the greater part of the compensation (£398,085, 10s.) granted by parliament to Scotland at the Union in 1707. In 1746, the *British Linen Company* was chartered, with a capital of £100,000, and, having shortly thereafter abandoned the linen trade, became exclusively a banking concern. Smaller banks were soon afterwards instituted in different parts of the country. The expansion of the national resources which occurred after the close of the American war in 1783, naturally led, as in the south, to a great increase of business, and considerable additions were then made to the capital of the larger banks, while about the same time they established branches in the several counties. The banks have since increased with the advancing prosperity of the country, and their number at present is about thirty, which have mostly numerous bodies of partners, as the act of 1708, limiting the number in English banks to six, did not extend to Scotland. Five of these possess charters, which, however, confer upon them no privileges, in regard either to the issue of notes or any other department of business. The charters of the three oldest are by some said to have the effect of restricting the liability of the partners to the amount of their shares; but, however this may be, no doubt is entertained that the responsibility of the partners of all the others extends to the full amount of their property, both real and personal: this circumstance has contributed powerfully to the solidity of the Scottish banks.

Notes payable to the bearer on demand were first issued in 1704, by the Bank of Scotland. During last century, these were frequently circulated for smaller sums than £1; and at one period, owing to the runs made by the banks upon each other, they were made payable either on demand, or six months after with interest; but these practices were suppressed in 1765. In 1826, when Parliament prohibited one pound notes in England, a similar attempt was made in regard to North Britain; but, a Committee being called for by the Scottish members, the result was, a determination not to interfere with the existing system.

The Statutory Regulations are principally embodied in the 5 Geo. III. c. 49, which requires that all bank-notes, circulated like specie, shall be made payable on demand, and prohibits those for sums under £1; and in the 7 Geo. IV. c. 67, the enactments of which are similar to those of the 7 Geo. IV. c. 46, already quoted in reference to England. In the act 7 Geo. IV. c. 67, however, the period within which the yearly returns of managers, branches, and partners, must be made to the Edinburgh Stamp-office, is from May 25 to July 25. The stamp-duties payable on notes are the same as in England.

Business Operations.—These possess a more uniform character than in the south, owing chiefly to the circumstance, that the Edinburgh banks have long had branches established over all the country, in which business is transacted in the same manner as at the head offices. The exchange regulations, afterwards explained, have likewise contributed to this result, by producing a kind of federative connexion between the banks themselves. The system which has thus grown up, will, however, be best explained in detail.

1. Deposits are received of sums from £10 upwards, which are repaid on demand, with interest at a rate varying from 2 to 3 per cent. They are composed in nearly equal parts of *Deposit Receipts* granted for money allowed to lie for considerable periods, and of *Deposit Accounts*, or drawing accounts, which are balanced yearly. The banks make no charge for keeping these accounts, but are supposed to be remunerated by the note circulation connected with the operations upon them. No overdrafts are allowed as in England. The amount of deposits in the Scottish banks is estimated at £25,000,000, nearly one-half consisting of sums not exceeding £200.

2. Cash-credit Accounts, the nature of which has been already explained, form a characteristic feature in the Scottish system, into which they were introduced by the Royal Bank in the year 1729. The sureties, commonly two in number, are bound jointly and individually with the principal, for the balance which shall ultimately arise, including all his liabilities to the amount of the bond. These credits are also granted on the security of real property, and occasionally, under certain restrictions, of the bank-stock. The interest charged on the current balances is commonly the same as the market-rate of discount on bills; occasionally it is one-half per cent. higher; but no commission is ever charged, the banks looking, as in the case of deposit-accounts, to the note circulation arising out of the operations on the accounts, as their remuneration for the trouble of keeping them. On this ground, cash-credits are not allowed to continue as dead loans: unless frequently operated upon, they are withdrawn. The number of these accounts at present in Scotland is estimated at 15,000, and the total amount of the bonds, £7,500,000, nearly two-thirds of

which are supposed to be drawn out. The banks are ready for sums amounting £2000, or twice £100; their average amount is about £210.

3. Bills are discounted at a rate varying in general from 4 to 5 per cent., and a commission is always charged. The practice in Scotland, with regard to bills, differs from that of England, in respect that comparatively few are made payable in London, and they are never credited by the bank to parties keeping accounts at stated periods half yearly, as custom is that country.

4. The issue of notes is intimately connected with all the operations of the Scottish banks, and by the profits derived from it, they are enabled to transact business, particularly in regards deposits and cash-credits, on a footing highly advantageous to the public. The notes issued are printed on the value of £1, £5, £10, £20 and £100, and with the exception of silver and copper coins, they compose almost the entire circulation. They are convertible at the bank offices into gold, or notes of the Bank of England. The amount in circulation varies being greatest at the money time, but, on an average is nearly £2,000,000, about one half of which consists of £1 notes.

5. The Scottish banks also negotiate bills on all parts of the United Kingdom, and on every place abroad—they and still for their customers draw the public funds—draw the dividends, interest—and effect remittances from one part of the Kingdom to another by means of letters of credit or bills due per date for those from Edinburgh or Glasgow on London being 20 days. They likewise facilitate remittances to many other countries, by means of bills drawn at a certain date on their agents in London, which bills, after being sent abroad, are again readily purchased for remittance to Britain. This branch of business has greatly increased since the opening of the trade to India and China. "We perceive," says the author of the *Commerce, Money and Banking of India*, "that in the Calcutta price currents the rates of Scotch bank bills are regularly quoted. We have one of these bills now before us of the Royal Bank for £500, with no less than thirteen endorsements, and which had travelled over all India."

6. An organized system of exchanges has been long rigorously acted upon by the chiefs of the Scottish banks, under which all their mutual claims arising out of the presentation of notes, drafts, or cheques, are settled at short intervals. Among provincial banks or branches, the exchange is adjusted weekly, and the balance liquidated by a draft payable on demand at Edinburgh, where the system is concentrated, and where all the banks are represented either by agents or their head offices. In Edinburgh, the exchanges are adjusted twice a week, and the balances paid in Exchange bills, 600 of which, each of the value of £1000 are kept by the banks in proportion corresponding to the estimated amount of their circulation including that of the provincial establishments which they represent. These bills are applied to no other use, each bearing the distinguishing mark of "Edinburgh Exchange Bill," and any bank holding more than its quota is obliged to sell at par to another requiring bills, the price of such bills being paid by a draft on London, at five days' date, and the current interest at Edinburgh rate settled in cash. All sums under £1000 are paid in Bank of England notes or gold. The balance receivable or payable by a bank depends upon the nature and amount of its business, and the exchange is said to be *unfavourable* when a balance is receivable, and *unfavourable* when the contrary. In general, the tendency of deposits, judgments on current accounts or for the purpose of remittance, and in short of all transfers, is to render the exchange *favourable*, and of loans, discounts, more particularly of bills not payable in the place; the payment of drafts, and of all advances, is to render it *unfavourable*; while the increase or decrease of these operations at particular times is productive of corresponding fluctuations.

The characteristics of the Scottish system of banking, it will be thus seen, are freedom, economy, and security. No monopoly is enjoyed by any one bank to the prejudice of others, and the money trade, like every other, is open to all who choose to engage in it. The currency employed is of the cheapest kind, and the joint effect of the deposit and cash-credit system is to prevent any part of the money capital of the country from remaining unproductive. The security of the whole is generally provided by numerous bodies of partners, large paid-up capital, and the system of exchanges, the practical operation of which is to drive from the field any establishment extending its business in a manner disproportioned to its resources. In the case of the celebrated Ayr Bank, of the East Lothian Bank, and of a few others, heavy losses were sustained by the partners; but the only banks of name by which the public have sustained losses, since the introduction of banking into Scotland in 1695, are the Stirling Merchant, and Falkirk Union Banks, two small concerns, the aggregate amount of whose deficiencies did not exceed £35,344.

1. CHARTERED BANKS IN SCOTLAND.

Designation.	Bank capital.	Partners.	Sh.	Paid up capital.	Interest.		Share Paid.	Profit Ann. 1845.
					Rate.	Period.		
1. Bank of Scotland.	1000	473	21	£1,000,000	4 per cent.	January and July	£1,000,000	0 0
2. Royal Bank.	177	264	7	£1,000,000	5 per cent.	January and July	1,000,000	0 0
3. British Linen Co.	17,000	104	44	£1,000,000	5 per cent.	January and July	1,000,000	0 0
4. Commercial Bank.	1000	619	20	£1,000,000	7 per cent.	January and July	1,000,000	0 0
5. National Bank.	1000	1200	20	£1,000,000	6 per cent.	January and July	1,000,000	0 0

2. UNCHARTERED BANKING COMPANIES IN SCOTLAND.

Designation	Value	Per cent	To	Designation	Value	Per cent	To
1. Aberdeen Bank	1787	100	123.3. Edinburgh & Leith Bank	1828	700		
2. Aberdeen T. & C. Bank	1823	200	124.4. Glasgow & Leith Bank	1830	200		
3. Ayr & Co. Bank	1825	80	125. Glasgow & Leith Bank	1830	200		
4. Ayr Bank	1773	11	126. Glasgow & Leith Bank	1830	200		
5. Ayr & Co. Bank	1825	97	127. Glasgow & Leith Bank	1830	200		
6. Glasgow & Leith Bank	1828	1100	128. Glasgow & Leith Bank	1830	200		
7. Glasgow & Leith Bank	1828	200	129. Glasgow & Leith Bank	1830	200		
8. Glasgow & Leith Bank	1828	700	130. Glasgow & Leith Bank	1830	200		
9. Glasgow & Leith Bank	1828	200	131. Glasgow & Leith Bank	1830	200		
10. Glasgow & Leith Bank	1828	200	132. Glasgow & Leith Bank	1830	200		
11. Glasgow & Leith Bank	1828	200	133. Glasgow & Leith Bank	1830	200		
12. Glasgow & Leith Bank	1828	200	134. Glasgow & Leith Bank	1830	200		

The whole of these banks issue notes, and all are joint-stock companies, except Nos. 4, 10, 11, 17, 21. Two other joint-stock banks are at this date (August 1880) projected—the Grimsby & Hull Banking Company, and the Glasgow Joint-Stock Banking Company. Messrs A. Allan & Co., Edinburgh, are now the only private bankers who do not issue notes.

VII BANKS IN IRELAND.—The introduction of banking into Ireland took place at a later period than in the two other parts of the kingdom, and its history may be termed a bad epitome of that of England, the same faults having been committed, and the evil arising from them having been much more conspicuous. The Bank of Ireland, which was incorporated in 1782, with a capital of £500,000 Irish, was invested with privileges similar to those of the Bank of England, and its charter contained unfortunately a clause that "no other bank issuing notes should consist of more than six partners." This restriction was inserted in order to give it a monopoly of the circulation, but the effect, as in England, has been to lead to the formation of country banks with inadequate resources. The evils resulting from such banks have been already described in the case of England, but in Ireland they were much more serious, from the less commercial habits of the people, and of fifty country banks established in 1804, no fewer than forty stopped payment, of them, ten failed in one year, namely, 1820, all in the southern part of the island.

The Bank of Ireland was placed in nearly the same relation to the State as the Bank of England. It advanced the greater part of its capital to government, and was intrusted with the management of the Irish department of the national debt. The exemption from paying in cash, granted to the latter establishment in 1797, was extended in the same year to the former, and led to a great increase in the circulation, which, from little more than £500,000 in 1796, was increased by 1813 to £3,000,000. A serious depreciation of the notes of the bank arose in consequence; and the silver currency of the country, though generally in a debased state, became more valuable in the form of bullion, and was all melted down. The consequence being, in consequence, exposed to the greatest inconvenience, the place of the notes was supplied in Dublin and other parts by counterfeits, and in several districts by a paper currency issued for sums gradually decreasing from 6s. to 3d., and even 2d. It was estimated that about 1804 there were dispersed throughout Ireland 205 issuers of this paper money, chiefly consisting of a motley body of shopkeepers, merchants, and petty dealers. The forgery, frauds, and general inconvenience which resulted from this exceptionable currency led at length to its suppression by law; and the wants of the trade were supplied by the issue of stamped dollars by the Bank.

The charter of the Bank of Ireland was successively renewed, and its capital increased, until 1821, when, on the renewal of the charter for seventeen years (1 and 2 Geo. IV. c. 72), the capital was raised to £3,000,000 Irish, of which £2,850,000 Irish, or £2,639,769 4 8 sterling, were deposited with government,—namely, £1,515,384 12 4 at 4 per cent., and £1,515,384 12 4 at 5 per cent. interest. The yearly dividends of the Bank have been at no time less than 5½ per cent., excepting in 1783-4, when they were 5, and in 1792-3, when they were 2½ per cent. From 1800 to 1814, however, they were 7, 7½, and 7½, from 1814 to 1820, excepting two years, they were 10 per cent., and since 1820 the rates have been 9, 8½, and 8 per cent. Besides these dividends, the proprietors, at different times since 1793, have received bonuses amounting to no less than £665,000 Irish.

The only benefits ever granted by the Bank to the public, in consideration of its privileges, were a payment of £80,000 Irish in 1791, and, since 1800, the management of the Irish department of the national debt free of charge. The deposit with

ent of £2,850,000 Irish at the high rates of 4 and 5 per cent. cannot be viewed advantage to the latter. On the other hand, it ought to be remarked, that tending the vicious state of country banking in Ireland in consequence of its monopoly, no attempt was made by them to establish branches until an incited by the rivalry of the Provincial Bank. Since the expiry of the in 1838, special acts have been passed continuing it from year to year, until Report of the sitting Committee of the House of Commons, when the sub- renewal will be discussed by Parliament, and when it is deemed probable ill be placed nearly on a footing with those granted to the chartered com- Scotland.

Appendix to the late Report (1840) of the Committee of the House of on Banks of Issue, a weekly statement is given of the liabilities and assets bank of Ireland from July 1832 to March 1840. The following is the for the week ending 28th March 1840 :—

BANK OF IRELAND, March 28, 1840.			
Liabilities.		Assets.	
on :		Securities :	
on and above.....£1,816,700		Public.....£2,770,300	
under £5.....1,261,000		Private, viz.—	
	3,077,700	Notes and Bills disctd. £2,463,800	
:		All other Private secu-	
.....£1,156,300		rities.....807,300	
and sundry balances.....1,866,700			3,270,800
	3,013,900	Specie.....1,130,500	
	£6,090,900		£7,179,600

a renewal of the Bank's charter in 1821, an arrangement was made by which each bank was allowed to be established at a distance of fifty Irish miles Dublin; but this arrangement remained inoperative until several vexatious laws annexed to it were repealed by an act in 1824. This relief was followed institution of the Northern Banking Company at Belfast, the Provincial and several others.

statutory regulations of the Irish joint-stock banks are principally embodied 18th Geo. IV. c. 42, the enactments of which are similar to those of the 6th 7. c. 46, already quoted in reference to England. In the former, however, ed within which the annual returns of managers, branches, and partners, uired to be made, extends from the 25th March in any year, to the same the year following.

Bank of Ireland, and all the joint-stock banks, excepting the Hibernian yal Banks, issue notes for £1 and upwards; and their total circulation, ac- to the Bank Report for 1840, fluctuates from about £5,500,000 to £6,500,000. ank of Ireland, Hibernian Bank, and Royal Bank, receive deposits and dis- alls; but the first does not allow interest, and not one of the three grants edits. The other joint-stock banks conduct business on the Scottish system, dification of it. Bills on London are drawn at 21 days' date in exchange b, and letters of credit are granted for a premium of $\frac{1}{2}$ per cent.

so COMPANIES in Ireland, with their advanced Capital, according to Re- to Parliament in 1837, and the Numbers of their Partners and Branches, rding to Returns in 1839.

Designation.	Head Office.	Founded.	Partners.	Branches.	Advanced Capital.
Bank of Ireland.....	Dublin.....	1783	..	22	L. Sterling. 2,769,230
Hibernian Joint-Stock Loan Co.	Dublin.....	1825	1063	0	250,000
Provincial Bank of Ireland.	London. . .	1825	728	34	491,780
Northern Banking Company . . .	Belfast. . .	1825	195	10	129,275
First Banking Company. . .	Belfast. . .	1827	280	18	125,000
Cultural & Commercial Bank	Dublin. . .	1834	3673	28	352,789
Royal Bank of Ireland.	London. . .	1836	*463	15	411,837
Merchants' Banking Company.....	Belfast. . .	1836	679	8	204,325
Commercial Bank of Ireland.....	Dublin. . .	1836	324	6	199,275

Hibernian Joint-Stock Loan Company was instituted chiefly by Roman Catholic gentlemen,

* Exclusive of branch partners.

in opposition to the Bank of Ireland in Dublin. It cannot, under the existing law, issue notes or establish branches. The *Royal Bank* is subject to the same restrictions.

The *Provincial Bank* is managed by a board in London, the shareholders being principally resident in England. It carries on business in most of the principal towns of Ireland. The management of each branch bank, subject to the control of the directors, is vested in an agent, with a committee of advice, consisting of two or more gentlemen residing in the district, each of whom must hold at least ten shares.

The *National Bank* consists also of a board in London, connected with branch or local banks throughout the principal towns in Ireland; but its principle of operation is different from that of the *Provincial Bank*. The capital of each branch is subscribed equally by the London company, and by a body of local shareholders, and profits are divided in the same proportion. The supreme control is vested in the London board; but it is provided "that each local bank shall be managed by a board of local directors, elected by the local shareholders, subject to the approbation of the directors in London."* The National Banks established on January 5, 1839, with the number of partners attached to each were as follows:—Limerick, 684; Clonmel, 646; Carrick-on-Suir, 571; Waterford, 618; Wexford and Enniscorthy, 589; Tipperary, 620; Tralee, 609; Cork, 530; Kilkenny, 546.

There are few private banks in Ireland.

The currency of Ireland was assimilated to that of Britain from and after January 5, 1826, by the act 6 Geo. IV. c. 79. The proportion of the late Irish currency to sterling was as 13 to 12, or £108 : 6 : 8 Irish = £100 sterling.

An account of the principles which regulate the value of bank paper, and a fuller explanation of the rules which govern its circulation in the United Kingdom, are given in the article *MONEY*, under which head are likewise considered the improvements or alterations in the system of the United Kingdom, suggested in the Reports made to the House of Commons by the Select Committee on Joint-stock Banks, and Banks of Issue, first appointed in 1836 on the motion of Mr Clay.

Principal Works on Banking, &c.:—Adam Smith's *Wealth of Nations* (Mr M'Culloch's edition); Thornton on the Paper Credit of Great Britain; Report of the Bullion Committee of the House of Commons, 1810; Blake on the Course of Exchange; Tooke on Prices; G. R. Porter's *Progress of the Nation*, sections III. and IV.; Sir H. Parnell's *Historical Sketch of the Bank of England*; Sir H. Parnell's *Observations on Paper Money, Banking, &c.*; J. W. Gilbart's *Practical Treatise on Banking*; J. W. Gilbart's *History and Principles of Banking*; Ricardo's *Plan for the Establishment of a National Bank*, 1824; Reports of the Parliamentary Committees on Scottish Banks, &c. in 1826; Report of the Committee of the House of Commons on the Charter of the Bank of England, 1832; Reports by the Committees of the House of Commons on Joint-Stock Banks, and Banks of Issue, in 1836, 1837, and 1840; and Pamphlets by Messrs Samuel Jones Loyd, J. Horsley Palmer, Wm. Clay, M. P., and R. Torrens.

BANKS (LOAN) are institutions formed for the purpose of advancing money upon articles of merchandise. The charters granted to the Bank of England, Bank of Scotland, and Royal Bank of Scotland, authorize them to advance money in this way; but in the present article it is intended to treat only of those loan banks which originated in motives of charity. Institutions of this kind are sometimes called *Montes Pietatis*; the term *mont* or *mount* being at an early period applied to any pecuniary fund. They were first established in the fifteenth century, for the purpose of checking the extortions of usurers by lending money gratuitously to the poor upon pledges: they were originally supported by voluntary contributions, but as these were found insufficient, it became necessary to charge interest for the loans. A bank of this kind was formed at Perugia in 1464; another at Rome in 1539; and one at Naples, which was considered the greatest in Europe, in the following year. The present *Mont de Pieté* at Paris was established in 1777, and so largely has the public taken advantage of it, that it has been known to have in its possession forty casks filled with gold watches.

Banks of this kind are also called "*Lombards*," from the name of the original bankers or money-lenders. One of these was established in Russia in 1772, and the profit derived from it was given to the Foundling Hospital of St Petersburg.

In the United Kingdom, the business of making advances to the poor is committed to **PAWNBROKERS** and **LOAN SOCIETIES**.

BANKS FOR SAVINGS are institutions for the deposit of savings from the earnings of the poorer classes. They were established on a small scale in a few country parishes about the beginning of the present century; but it was not until after the formation of the *Edinburgh Savings Bank* by Mr Forbes (now Lord

* This plan is understood to have been lately changed for that of the *Provincial Bank*, except at one or two of the branches.

: of the Court of Session) that they created much public interest. The operation of that bank in a large city, together with the writings of Mr and Dr Duncan, minister of Rathwell, led speedily to their establishment in parts of England, and they now rank among the most important institutions in the kingdom.

have been passed at various times for the encouragement and regulation of Banks. The existing act is the 5 Geo. IV. c. 92, passed in 1825. The of banks formed in terms of that statute are authorized to invest their deposits in Banks of England or Ireland on receipts carrying interest at the rate of 4 per cent. per diem, or £3 : 16 : 0½ per cent. per annum; but it is provided, that interest payable to depositors shall not exceed the rate of 2½ per cent. per annum, or £3 : 8 : 0½ per cent. per annum,—the difference being retained by the trustees for the expenses of the bank. It is also provided, that "All monies paid into the of England or Ireland on the account of Savings Banks shall be invested in annuities or exchequer bills." The trustees are not allowed to receive from any individual whose previous lodgements have amounted to £150; and no balance due to any one depositor, including interest, amounts to £200, no interest is to be allowed. Charitable or provident institutions are permitted to come to the extent of £100 per annum, provided the amount shall not at any one time exceed £200, exclusive of interest; and by the act 4 and 5 Wm. IV. c. 40, Friendly Societies are allowed to deposit to any extent. The lowest deposit is generally one shilling, and by the act 3 Wm. IV. c. 14, § 20, individuals may not deposit more than £20 in any one year. A few days' previous notice is generally required before deposits can be withdrawn.

preceding acts were extended to Scotland in 1836, by the act 5 & 6 Wm. IV.

: 30th November 1837 there were in England 288 Savings Banks holding £16,177,000, and 234,222 depositors, being on an average £28 for each depositor. At the same time 60 in Wales twenty three Savings Banks holding £611,181, belonging to 12,367 depositors on an average of £28 for each depositor, in Ireland seventy eight Savings Banks holding £70,911 belonging to 63,258 depositors, being on an average of £28 for each depositor. (1) 100 Savings Banks, holding £161,204 belonging to 17,212 depositors being on an average of £28 for each depositor. making in all for the United Kingdom 348 Savings Banks holding £16,888,181 belonging to 124,226 depositors, being on an average of about £28 for each depositor, whereas belonging to individual depositors however there were invested by 4,024 Charitable Societies and 318 Friendly Societies in England £1,011,342, by 418 of such associations £24,000, by 107 of such associations in Ireland £23,713, by 81 of such associations £1,418. The total amount of money invested in Savings Banks on November 30, 1837 therefore £19,899,523. On November 30 1838 the number of individual depositors was 124,226 and the total amount deposited including the lodgements of 6848 Charitable Institutions Friendly Societies was £21,311,712.

respectively small extent to which the public have availed themselves of Savings Banks and arises from the circumstance, that the ordinary banks seldom refuse to receive and credit on the deposit of a tradesman, though this should be considerably under £10, their

on Banks' Annuities.—The act 3 Wm. IV. c. 14, enables the industrious to purchase annuities, through the medium of Savings Banks, from the proceeds for the reduction of the National Debt. These annuities (not under £20) are payable for life, or for a number of years certain, commencing either immediately, or at the end of any assigned period, as may be desired. Each description of annuity, when deferred, may be purchased either by single payments (which will be received in monthly instalments or otherwise), or by single payment; the annual payments to cease when the annuity becomes due. And it is especially provided, that if there be default in making the annual payments, or if the person who has contracted for the annuity die before it becomes due, the amount of all the payments, exclusive of interest, shall be returned. Each of the nominees of any life annuity, a fourth part thereof, over and over, is payable to his executors, or the party entitled thereto. These annuities are not transferable; but, on the purchaser's bankruptcy, they become the property of his creditors, from whom they will be repurchased by the Commission following is an abridgement of some of the tables of these annuities:—

TABLE				TABLE															
SHOWING THE VALUE OF AN IMMEDIATE LIFE ANNUITY OF £20.				SHOWING THE SUM REQUIRED TO BE PAID AT THE TIME OF PURCHASE OF AN ANNUITY OF £20, DEFERRED FOR THE FOLLOWING YEARS —															
Age.		10 Years.				15 Years.				20 Years.									
		In one sum.		Yearly.		In one sum.		Yearly.		In one sum.		Yearly.							
£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.		
15	377	15	6	15	348	10	0	25	12	0	189	0	0	16	1	0	127	11	0
20	323	12	2	20	258	0	0	23	16	8	180	8	0	16	7	6	128	13	0
25	284	13	3	25	230	3	0	22	12	8	167	7	0	15	4	0	126	13	0
30	245	18	10	30	234	4	6	25	8	0	163	6	0	15	3	0	124	11	6
35	208	19	11	35	237	3	6	23	4	0	153	3	0	14	17	6	125	8	0
40	210	7	9	40	229	19	6	24	19	0	180	19	0	14	14	0	120	9	0
41	205	8	10	45	227	13	6	24	14	0	179	13	0	14	10	0	137	18	0
42	201	18	6	50	225	5	0	24	9	0	176	8	0	14	6	0	125	4	6
43	197	7	10	55	222	15	0	24	3	0	173	16	0	14	2	0	128	11	6
44	192	12	6	60	220	3	0	23	18	0	171	4	0	13	19	0	129	15	6
45	187	12	6	65	217	10	6	23	12	0	169	9	0	13	13	6	126	16	6
46	182	7	10	70	214	18	0	23	6	0	165	11	6	13	9	0	124	1	0
47	176	16	0	75	211	18	0	23	0	0	162	11	0	13	4	0	121	9	6
48	171	0	4	80	208	12	6	22	13	6	159	7	0	12	16	6	118	6	6
49	165	1	4	85	205	16	0	22	6	6	155	0	6	12	13	6	115	11	0
50	159	0	4	90	202	10	0	21	19	6	152	12	0	12	8	0	112	17	0
55	130	1	5	95	199	0	6	21	12	0	149	9	0	12	3	0	110	3	6
60	102	14	4	100	195	8	6	21	4	0	145	19	0	11	16	6	107	11	0
65	171	14	2	105	191	11	0	20	16	0	142	5	0	11	11	0	104	19	0
70	142	2	6	110	187	11	0	20	7	0	138	18	0	11	5	0	101	7	6
75	114	4	7	115	183	8	6	19	16	0	135	13	0	11	0	0	98	18	6
80	81	14	10	120	179	8	0	19	9	0	132	9	0	10	15	0	95	1	6

All transactions under this act are directed to be conducted through the medium of a Savings Bank ; but it is made lawful for any persons, in a place where such an institution does not exist, to establish a society for carrying the provisions of the act into execution.

BANKRUPT AND BANKRUPTCY.—A bankrupt, in the modern acceptation of the term, is a person who, either from the want of sufficient property, or from the difficulty of presently converting what he possesses into money, is unable to meet those demands of his creditors which the law gives them the power of instantly enforcing, and who has committed some act indicative of the situation in which he is so placed. It is in the latter particular that a bankrupt differs from one who is insolvent. A man may, were his affairs examined, be found unable to pay his debts ; but if his creditors are either ignorant of the circumstances, or knowing it, trust to the return of prosperity, no one is injured, no one's claim is resisted, and there is no necessity of applying the sweeping remedy of the Bankrupt Laws. But when by resisting or evading the demands of creditors, or by the other acts provided for in the bankrupt laws (ACTS OF BANKRUPTCY), a man has distinctly shown to the world that he has not wherewithal to meet the just demands on him, it has been deemed, in some cases, necessary for a special law to step in and lay its hand upon the property of every description belonging to the debtor, in order that particular creditors may not, through an expeditious adoption of the ordinary remedies of the law (suggested perhaps by superior means of knowing the bankrupt's circumstances), sweep away the whole in full payment of their debts, and thus acquire an advantage over less fortunate creditors beyond the just reward of their activity. To accomplish this end, a bankruptcy code appoints all the property of every description belonging to a debtor to be placed in the hands of trustees, to be by them converted into cash, and then to be distributed among the ordinary creditors in proportion to the amount of their respective debts. It is a principle of the commercial bankruptcy systems of the United Kingdom, that after a sufficient time has been allowed for all the resources of the bankrupt to be investigated, and his property realized for behoof of his creditors, if he has conducted himself with candour and integrity, he is protected from their farther prosecution, and left free to recommence the pursuit of wealth, untrammelled by any obligation to them previous to his bankruptcy.

In ENGLAND, the laws of commercial bankruptcy were consolidated by statute 6 Geo. IV. c. 16, and were amended by the act 1 & 2 Wm. IV. c. 83, which created a new tribunal in bankruptcy. (BANKRUPTCY COURT, &c.)

Who may become Bankrupt.—By § 2 of the former statute, the commercial persons who may

ted to the bankruptcy code are thus enumerated: "All bankers, brokers, and persons in trade or profession of a scrivener, receiving other men's monies or estates into their trust, and persons insuring ships or their freight, or other matters, against perils of the sea, seamen, wharfingers, packers, builders, carpenters, shipwrights, victuallers, keepers of inns, hotels, or coffee-houses, dyers, printers, bleachers, fullers, calenderers, cattle or sheep, and all persons using the trade of merchandise by way of bargaining, exchange, barter, commission, consignment, or otherwise, in gross or by retail; and all persons who, either for themselves or as agents or factors for others, seek their living by buying and selling, or by buying for hire, or by workmanship of goods or commodities, shall be deemed traders liable to bankruptcy: Provided that no farmer, grazier, common labourer, or workman for hire, remanufacturer of the taxes, or member of, or subscriber to, any incorporated, commercial, or other companies, established by charter or act of Parliament, shall be deemed as such a trader by virtue of this act to become bankrupt." There is here a distinction between two classes—those who belong to some specified commercial profession, and those who in general carry on any kind of trade. It is ruled that the amount of the trade is not to be taken into consideration; but occasional acts of buying and selling arising incidentally from other pursuits, are not included,—as where a schoolmaster sells to his own pupils, or a person who keeps hounds buys dead horses and sells the skins and so on; or one who has purchased more of an article than he finds use for sells the surplus. The business of brick-making is carried on as a mode of enjoying the profits of a real estate; it will not make the party liable to the bankrupt law; but where it is carried on substantially and independently as trade, it will do so, and there is no difference whether the party is a tenant or entitled to the freehold. The same general doctrine applies to the case of a person quarrying alum, burning lime, or selling minerals from his own quarry" (*Henley*, 4 & 5). If an executor merely disposes of his testator's stock, it does not bring him within the act, though he adds ingredients to make it marketable; but it is otherwise if he increases the stock and sells it. It is not necessary that the trade be conducted in England, it is sufficient that the party trade in England. The persons excepted enjoy their privilege only in the capacity assigned to them in the act; farmers and graziers are liable if they trade. Buying and selling bank stock and government securities, is considered as no trading within the statute. "*Drawing and redrawing of exchange and promissory notes*, if there be a continuation of it with a view to gain by the exchange, is a trading; but a person's merely drawing bills on his own account, and for their being discounted with interest, and borrowing accommodation bills in exchange for the same amount, will not make a man a trader" (*Henley*, 4). [Before a trader can be declared bankrupt, one of those events must have taken place which the law recognises as indicative of his inability to meet his engagements, or his design to evade them. These are termed *acts of bankruptcy*, and will be found enumerated under that head.]

Debt.—A trader who has committed an act of bankruptcy is made bankrupt on the petition of one or more creditors. If a single creditor or a company petition, the debt must amount to at least £100; if two creditors, to £150; and if three or more, to £200; and "every person who has given credit to any trader upon valuable consideration for any sum payable at a certain time, which has not yet arrived when such trader committed an act of bankruptcy, may so petition and petitioning as aforesaid, whether he shall have any security in writing or otherwise, for such debt or sum" (6 Geo. IV. c. 16, § 15). "The debt must be due both in law and equity; due to the petitioning creditor alone, unless he be a co-assignee or co-partner; it may be on account, if the debtor swears to a sufficient balance, or a sum awarded, notwithstanding a bill filed to set aside the account, or an attorney's bill though not signed or delivered; or the debt of a surety. But not a debt on a security for a contingent demand, nor costs recoverable only by attachment, nor damages awarded before judgment, nor a debt for which the debtor is in execution, nor a cross-acceptance, nor a debt for which the creditor has paid his own; nor can the husband petition alone on a debt due to him jointly with his wife, unless it be a bill or note. Of course, the debt must not be bad for illegality. It is held, that a debt barred by the statute of limitations is sufficient, unless perhaps where the objection is taken by the bankrupt himself, yet the *proof* of such a debt is disallowed. A debt is sufficient, though the debtor has been insolvent, and it was included in his schedule; or if a security of a higher nature has been taken for it since the bankruptcy. A debt due to an assignee will not be sufficient" (*Smith's Mercantile L.* 493, 494). A debt barred by the statute of limitations will not support a petition, nor will a debt on a transaction declared null by 57 Geo. III. c. 99, § 3, which prohibits spiritual persons from embarking in trade. By § 18 of 6 Geo. IV., if the petitioning creditor's debt is found insufficient, the court may order the bankruptcy to be proceeded in on the petition of any other creditor who has proved a sufficient debt, provided it be not anterior to that of the petitioning creditor.

Search, Fiat, and Adjudication.—Before petitioning, a creditor ought to institute a search of the bankrupt office to ascertain if a docket has been struck. If none has been struck, the creditor, if he reside in London or its vicinity, appears before a Master in Chancery, or if in the country, before a Master-extraordinary in Chancery, and makes affidavit of the truth and reality of the debt, and of his belief that the debtor is a bankrupt. [AFFIDAVIT.] It has been a rule that a country bankruptcy cannot be executed within forty miles from London, and must be executed within ten miles of the place to which it is issued. The creditor then delivers his affidavit at the bankrupt office accompanied by a bond to the extent of £200, in which he undertakes to prove his debt and the bankruptcy of the debtor, in case of the proceedings being contested. An entry is made in an official book, termed "the Docket Book," on the delivery of the bond and affidavit, and the petitioner is then said to have "struck a docket" against the bankrupt. Before the act 1 & 2 Wm. IV. c. 38, the Lord Chancellor used to issue a commission, empowering certain commissioners to take the oath of the person and property of the bankrupt for the benefit of the creditors. A simple fiat under the act (s. 12) substituted for the commission. It may be issued by the Lord Chancellor, the Master of the Rolls, the Vice-chancellor, and "each of the Masters of the Court of Chancery, or any one of them, or any appointment by the Lord Chancellor to be given for that purpose." The fiat authorises the petitioner to prosecute his complaint in the Court of Bankruptcy, or before commissioners appointed for that purpose. It must be subsequent to the act of bankruptcy; but it will be sufficient if it have been issued at a later hour of the same day. When the bankruptcy is a country one, the commis-

sloners qualify by taking the oath. The commissioners of the Court of Bankruptcy take a general oath on entering on their office. The petitioning creditor must attend before the commissioners and prove his debt, and the trading and bankruptcy of the debtor [COMMISSIONERS]; and the commissioners, after full inquiry, adjudge the party bankrupt. If the trader intend to dispute the adjudication, he may present a petition to the court of review within two calendar months if he be within the United Kingdom, within three if he be elsewhere in Europe, and within a year (or a shorter period, at the discretion of the court) if he be out of Europe. The bankrupt may have an issue for trying the question by jury, on finding security for costs, if the court require him to do so (1 & 2 Wm. IV. c. 56, § 17). [BANKRUPTCY, COURT OF.] At the adjudication, the commissioners issue the warrant of seizure, which empowers a messenger to search for and take possession of the property of the bankrupt. The commissioners then proceed to make inquiry into the bankrupt's dealings, by examining those who have been connected with him in business, &c. [COMMISSIONERS.] Meanwhile, in town bankruptcies the estate vests in the official assignee, and in country bankruptcies in the provisional assignees, if it has been thought necessary to make such appointment. [ASSIGNEES.]

Relation.—The procedure retroacts by "relation" to the date of the act of bankruptcy. In virtue of this principle, all transactions by which the bankrupt conveyed or alienated his property in the interval were formerly void. The rule was gradually relaxed. By the 6 Geo. IV., payments were protected, and other transactions if completed two calendar months before the date of the commission or fiat (§§ 81, 82). By a late statute, 2 & 3 Vict. c. 29, it is enacted that "all contracts, dealings, and transactions, by and with any bankrupt, really and *bona fide* made and entered into before the date and issuing of the fiat against him, and all executions and attachments against the lands and tenements, or goods and chattels of such bankrupt *bona fide* executed or levied before the date and issuing of the fiat, shall be deemed to be valid, notwithstanding any prior act of bankruptcy by such bankrupt committed, provided the person or persons so dealing with such bankrupt, or at whose suit, or on whose account such execution or attachment shall have issued, had not at the time of such contract, dealing, or transaction, or at the time of executing or levying such execution or attachment, notice of any prior act of bankruptcy by him committed: Provided also, that nothing herein contained shall be deemed or taken to give validity to any payment made by any bankrupt, being a fraudulent preference of any creditor or creditors of such bankrupt, or to any execution founded on a judgment on a warrant of attorney, or cognovit, given by any bankrupt by way of such fraudulent preference."

The commissioner who adjudicates, appoints two or more meetings of creditors for the bankrupt to surrender and conform, at the first of which the chosen assignees are elected (1 & 2 Wm. IV. § 20). A considerable portion of the subject of bankruptcy is so intimately connected with the powers and duties of the assignees, that reference may here be made to that head for the greater part of the remainder of the subject. The claims of the creditors will be found under the head of *Proof*. Up to the meeting for the choice of assignees, the petitioning creditor prosecutes the bankruptcy at his own cost, the commissioners then authorize the assignees to reimburse him from the first realized funds. When the adjudication has been pronounced, notice is given by the commissioners in the London Gazette, of the adjudication, and of the two meetings.

The Bankrupt.—The bankrupt must surrender his property and all documents connected with it, and conform to the provisions of the bankrupt law. A summons to surrender must be left at his residence, and he is liable to transportation or imprisonment and hard labour if he disobey it, or do not make a full surrender and disclosure. The surrender must be made before three o'clock of the forty-second day after notice, but the court may enlarge the time (6 Geo. IV. §§ 112, 113). The following provision is made by 6 Geo. IV. § 116, for the bankrupt's co-operation with the assignees, "every such bankrupt, not in prison or custody, shall at all times after such surrender, attend such assignees upon every reasonable notice in writing for that purpose, given by them to him, or left at his house, and shall assist such assignees in making out the accounts of his estate; and such bankrupt, after he shall have surrendered, may, at all seasonable times before the expiration of the said forty-two days, or such farther time as shall be allowed to him to finish his examination, inspect his books, papers, and writings, in the presence of his assignees, or any person appointed by them, and bring with him each time any two persons to assist him; and every such bankrupt, after he shall have obtained his certificate, shall, upon demand in writing given to him or left at his usual place of abode, attend the assignees, to settle any accounts between his estate and any debtor to, or creditor thereof, or attend any court of record to give evidence touching the same, or do any act necessary for getting in the said estate, for which attendance he shall be paid five shillings per day by the assignees out of his estate." The provision is enforced by imprisonment. The bankrupt is free from arrest in coming to surrender, and after surrender during the forty-two days, and such further time as may be allowed for examination, provided he was not in custody at the time of surrender. If he be arrested, he can demand his discharge on producing the commissioners' summons (§ 117). At the last examination the commissioners may adjourn the examination *sine die*, and they are entitled to indorse on the summons a protection to the bankrupt from imprisonment, for a period not exceeding three months (§ 118). The commissioners and assignees are empowered to make the bankrupt an allowance from time to time from the estate, until he have passed his last examination (§ 114). If the bankrupt have duly surrendered and conformed, he will, on obtaining his certificate "be discharged from all debts due by him when he became bankrupt, and from all claims and demands hereby made proveable" (§ 121). The certificate, if granted before six calendar months from the bankrupt's last examination, must be signed by four-fifths in number and value of creditors to the amount of £20; after the six months it may be granted by three-fifths in number and value, or nine-tenths in number. To render the certificate a discharge, it must be accompanied by an attestation from the commissioners of the bankrupt's surrender and conformity, and the bankrupt must swear that the certificate was obtained without fraud (§ 122). The certificate must be "allowed" in the court of review, and it may there be opposed by any creditor. In the following cases, the certificate is, by § 130, void:—"If such bankrupt shall have lost, by any sort of gaming or wagering, in one day £20, or within one year next preceding his bankruptcy £200; or if he shall, within one year next preceding his bankruptcy, have lost £200 by any contract for the purchase or sale of any government or other stock, where such contract was

performed within one week after the contract, or where the stock bought or sold was transferred or delivered in pursuance of such contract; or shall, after an act of bankruptcy, have destroyed, altered, mutilated, or falsified, any of his books, papers, writings, or made or been privy to the making of any false or fraudulent entries in any count or other document, with intent to defraud his creditors, or shall have concealed the value of £10 or upwards; or if any person having proved a false debt under the act, such bankrupt being privy thereto, or afterwards knowing the same, shall not have the same to his assignees within one month after such knowledge." A certificate in a bankruptcy, or in favour of a bankrupt who has at some previous period been discharged from an act, or who has compounded, is restricted in its operation (unless the estate produces shillings in the pound) to the protection of his person from arrestment and imprisonment of his future estate and effects (tools of trade, necessary household furniture, and wearing apparel) remaining vested in his assignees (6 Geo. IV. § 127). After the bankrupt has received his certificate, the regular allowance is awarded him. If the net produce amount to £100 or upwards, he is to receive 5 per cent., provided that do not exceed £400. If it amount to £100 or upwards, his allowance is 7½ per cent., provided it do not exceed £500, and if the produce amount to 15s. or upwards per pound, it is to be 10 per cent., provided it do not exceed £600. If the net produce do not pay 10s. per pound, the bankrupt is only to be allowed so much as the assignees think fit, not exceeding 3 per cent., and limited in amount to £300 (§ 128).

Assignment.—The distribution of the funds realized among the creditors is thus provided for. After the last examination, the commissioners appoint a public meeting to be held within four months from the issuing of the fiat, and within six months after the examining twenty-one days' notice in the Gazette. At the meeting the assignees give in an account of their transactions on oath, and the commissioners audit the account and inquire whether the same in the assignees' hands ought to be retained (§ 106). Not sooner than four, or later than six months from the issuing of the fiat, the commissioners appoint a meeting with similar powers for declaring the first dividend out of such part of the net produce as they may think fit. At the meeting all creditors who have not previously proved may prove. The assignees make a deed in pursuance of the order, without a Deed of Division, and take a receipt from each creditor in a book preserved for the purpose (§ 107). If the estate is not exhausted by the first dividend, a meeting for a second is called in the same manner within eighteen months from the issuing of the fiat. All creditors who have not proved may prove at this meeting, and all creditors not partaken of the former dividend are paid according to the amount of that dividend. When a general distribution is made, "and such second dividend shall be final, unless any action or suit in equity be depending, or any part of the estate be standing out not sold or disposed of, or unless some other estate or effects of the bankrupt shall afterwards come to the assignees, in which case they shall, as soon as may be, convert such estate and effects into money, and within two calendar months after the same shall be so converted, divide the same in manner aforesaid" (§ 109). Assignees having at their disposal unclaimed dividends to the amount of £50, within two months after expiry of a year from the above declaration of a dividend, pay the same to the creditors, or file a certificate of them in the bankruptcy office, with the creditors' names, and the amount, &c., otherwise they are chargeable with 5 per cent. interest, and such farther sum as the commissioners may think fit, not exceeding 20 per cent. Dividends which have lain unclaimed for two years may be divided among the other creditors (§ 110). By 1 & 2 Wm. IV. § 22, assignees must keep all monies lodged in bank, subject to the order of the court. [ASSIGNMENT.]

Rescinding and Annuling.—The Lord Chancellor was, by the former law, empowered to issue orders "to supersede a commission; he may now by 1 & 2 Wm. IV. § 19, rescind or annul. The power is in the general case discretionary. It will be exercised in the case of fraud, or absence of any of the requisites, or if the bankruptcy is not proceeded with. When a fiat is made, the acts done under it become void. It is the invariable practice to rescind or supersede on the consent of all the creditors who have proved is obtained. It is imperative on the court to annul when it is certified that the proper number of creditors have agreed to a composition. [COMPOSITION CONTRACT.] (*Henley's B. L. Smith's Mercantile L.* p. 465-610.) [ASSIGNMENT.]

IRISH BANKRUPTCY COURT. COMMISSIONERS. COMPOSITION CONTRACT. PROOF.

IRELAND the process of bankruptcy has, by the late act 6 & 7 Wm. IV. c. 14, as amended by 1 & 2 Wm. IV. c. 48, and by 2 & 3 Vict. c. 86, been in almost every respect assimilated to the English system, which may be applied to Ireland, keeping in view these small distinctions. There are two commissioners of bankruptcy in Ireland, a first and second, one of whom is appointed to act in each instance by a commission under the great seal. There are no official rules, so that the rules as to country bankruptcies in England apply. In the case of persons liable to be made bankrupts, after the words "member of or subscriber to any incorporated company or trading companies established by charter," come the words "under or registered in pursuance of act of Parliament" (§ 18). In the Irish act, the expression "supersede" is continued.

SCOTLAND, the process by which the property of a trader is realized and divided among his creditors is termed Sequestration (which see); the word bankruptcy has a wider meaning in law, and is applied to all descriptions of persons who are placed in circumstances that publicly indicate their inability to meet their engagements. They are distinguished from those who may be insolvent, whose situation is not made known to the world through the public acts of their creditors, by the term "notour," or notorious, bankrupt. By the Scottish act 1696, c. 5, any person, being under diligence by horning and caption, is imprisoned, or seeks the sanctuary of the Black House in Edinburgh, or defends himself by force, or flees, or absconds, and is afterwards found to have been insolvent at the time, is declared a notour bankrupt. "Insolvency," as defined by Lord Bell, "is not made a presumption by the statute, but few cases occur where a finding of insolvency will be required in addition to the concurrence of the other requisites. It is necessary, as may be imagined from the words of the act, to institute a separate action for proving the insolvency. The point is tried in the course of the reduction of a preference, or in the course of the petition for sequestration; and the judgment on the insolvency is combined with the judgment on the whole question before the court" (*Commentaries*, ii. 168). By later statutes, the law has been made to the acts which constitute bankruptcy. They are thus consolidated in the

at (§ 32). If the Lord Chancellor deem any matter of law or equity before him by appeal from the court of review, to be of sufficient difficulty to require the decision of the House of Lords, or if both parties to the appeal desire it to be determined in the first instance by that House, and not by the Lord Chancellor, his lordship or the court of review may direct the whole facts to be stated in the form of a petition for a writ of *certiorari* to the House of Lords (§ 37). References or adjournments by a judge must be to the subdivision court to which he belongs, unless in the absence of a member of the court, or for other good cause (§ 6). Appeals from the court of review are heard by him only, and not by any other judge of the court of review (§ 3). The court of review has the power of deciding on petitions for a writ of *certiorari* against the bankrupt [BANKRUPTCY], and may also issue as to a fact affecting the validity of the adjudication, to be tried by a jury, if the verdict is not set aside on application to the court of review within a specified time after the trial, or if the adjudication be not set aside by the court of review, the verdict is conclusive evidence that the party was or was not bankrupt at the date of the adjudication—an appeal lies to the Lord Chancellor in cases of law or equity, or the refusal or admission of evidence only (§ 17).

SCOTLAND and IRELAND there are no separate tribunals for administering the law. In the former country this duty is performed by the Court of Session, in the latter by the Lord Chancellor, under whom there are two official assessors (6 & 7 Wm. IV. c. 14, 7 Wm. IV. and 1 Vict. c. 48).

BALLOON, an Italian and Sicilian liquid measure, the contents of which vary in different places from about 7 to 16 Imp. gallons.

BARILLA (Fr. *Barille*. Ger. *Barilla*. It. *Barriglia*. Rus. *Socianka*. Sp. *Barilla*), an impure carbonate of soda, obtained by lixiviating the ashes of sea-weeds.

It is imported into the United Kingdom in considerable quantities from the Canary Islands, and Sicily, and in smaller parcels from the East Indies. The best is brought from Alicant, near which it is prepared from the *Salsola sativa* L., and the *Saler*, two plants which are extensively cultivated for that purpose in Valencia and Murcia. It is brought to us in hard porous masses. The quality is of a blueish-gray colour, while that which is made from other plants is more approaching black, and of greater specific gravity than the former. The value of barilla depends upon its purity. It usually contains from 16 to 24 per cent. of its weight of pure carbonate of soda, and occasionally 30 per cent. It is used in the arts,—particularly in the manufacture of soap and glass, and in bleaching; but it is now much less used than formerly, on account of the cheapness of soda obtained from common salt. About 70,000 cwts. are at present entered annually for home consumption, which, notwithstanding a great increase of duty, is less than one-third of the quantity formerly required. It is not used in Ireland.

A drawback is allowed on the barilla used in bleaching linen (4 & 5 Wm. IV. c. 14).

SEA-WEED *Barilla*, or *Kelp*, is a still more impure alkali, formerly made in large quantities in the Hebrides, Orkney, and Shetland, by burning sea-wrack (mostly *Fucus vesiculosus*). It contains only from 3 to 8 per cent. of pure carbonate of soda. The kelp manufacture has been comparatively trifling since the abolition of duties on salt, and the reduction of those on barilla.

BARK, the rind or covering of a tree. A variety of barks occur in commerce, but the most valuable, and that of the oak will be noticed in this place. Some others, as cinchona bark, cork, cinnamon, cassia, and quercitron, will be described under their respective heads.

Bark (Ger. *Eichenrinde*, *Lohe*. Du. *Run*, *Runne*. Fr. *Tan Brut*, *Ecorce*. It. *Scorza di Quercia*, *Corteccia della Quercia*. Sp. *Cortexa de Enebro*. Por. *Casca do Carvalho*. Rus. *Dubowui Kord*) is the chief substance used in tanning leather. Its quality varies according to the age of the tree, and the season when it is cut; and Sir H. Davy discovered that tannin is more abundant in the bark of young than of old ones. It is likewise ascertained, that bark taken in summer has 4½ times the quantity of tannin, in a given weight, compared with bark taken in winter. Of substances used for tanning, Sir H. Davy states, that 8½ lbs. of oak bark are nearly equal to 21 of common willow bark, 8 of elm bark, 11 of the bark of the Spanish chesnut, 7½ of the bark of the European willow, 3 of sumach, 2½ of galls, and 1 of catechu, with respect to the quantity of tannin contained in them.

In addition to the oak bark of British growth, nearly 40,000 tons are annually

imported, more than one-half of which is brought from the Netherlands, the remainder chiefly from Italy and other parts in the Mediterranean.

BARLEY (Fr. *Orge*. Ger. *Gerste*. It. *Orzo*. Sp. *Cebada*), a well-known species of corn (*Hordeum*), of which the varieties are distinguished either from the number of rows of grains in the ears, or from the time of sowing them, into winter barley and spring barley. In this country, it is commonly sown in April, and from two to three bushels of seed are used for an acre. The produce varies greatly with seasons, culture, and soil. The more early it can be sown, the produce in grain is the surer, though the bulk in straw is less. 36 bushels per acre is generally held to be a medium crop, and 40 bushels a good crop. The medium weight of the common, or two-rowed barley (*H. distichon*), is about 52 lbs. the bushel. The principal consumption of barley is for malting. In the state termed *pot* or *pearl* barley (having the external coat of the seed rubbed off), it is employed largely in soups and cooling drinks; and the flour is used in many places for bread. In the south of Europe, it is consumed as food for horses. *Bigg* or *Bere*, an inferior variety of six-rowed barley, is cultivated in the north of Scotland, and other late places, on account of its ripening well when sown in spring; but its grains do not weigh so heavy, in proportion to their bulk, as the two-rowed kind. Barley is cultivated in a greater variety of climates than any of the other bread corns. In the United Kingdom, the best is raised in Essex, Norfolk, and Suffolk, where large quantities are produced and malted for the London market. [CORN TRADE.]

BARM. [YEAST.]

BARQUE. [SHIP.]

BARRATRY is any fraudulent or other unlawful act committed by the master or mariners of a ship, without consent of the owner, and tending to his injury;—"as by running away with the ship, wilfully carrying her out of the course of the voyage prescribed by the owners, sinking, or deserting her, embezzling the cargo, smuggling, or any other offence, whereby the ship or cargo may be subjected to arrest, detention, loss, or forfeiture" (*Marshall*, 519). In other countries it comprehends those faults of ignorance, unskilfulness, or rashness, by which loss may be occasioned; but in Britain it is limited to intentional offences against the owners, and it has been decided, that an act done with the privity of the owners, though without that of the proprietor of the cargo, who was the person insured, is not barratry (*I. T. R.* 323). If the shipmaster be the owner, he cannot be guilty of barratry. It is not essential that the act be done for the profit of the master or the mariners, and so it is barratry to sail out of port in breach of embargo, in consequence of which the owners sustain a loss in seamen's wages and provisions by detention (*Robertson v. Ewer*, *I. T. R.* 127). It does not affect the act that it was designed to benefit the owner. "With respect to the owner of the ship or goods," says Lord Ellenborough, "whose interest is to be protected by the policy, it can make no difference in the reason of the thing, whether the prejudice he suffers be owing to an act of the master, induced by motives of advantage to himself, malice to the owner, or a disregard to those laws which it was the master's duty to obey, and which (or it would not be barratry) his owners relied upon his observing." And it was accordingly decided, that where a master had general instructions to make the best purchases with despatch, this would not warrant him in going into an enemy's settlement to trade (which was permitted by the enemy), though his cargo could be more speedily and cheaply completed there; but such act, in consequence of which the ship was seized and confiscated, was barratrous (*Earle v. Roucroft*, 1806, 8 *Exst.* 125). A general freighter is held owner for the time, and barratry may be committed against him, though with the sanction of the shipowner. On the same principle, the owner cannot recover as for barratry for what is done by order of the charterer, and it was held, that if the owner of a ship let to freight takes the command of her, and willingly runs her ashore, this is barratry against the freighter (*Soares v. Thornton*, 7 *Taunt.* 627). Most descriptions of barratry are punished as crimes. By 33 Geo. III. c. 66, § 8, the captain of any merchantman under convoy, wilfully disobeying the signals or instructions of the commander of the convoy, or deserting without notice or leave, is liable to imprisonment not exceeding a year, or to a penalty not exceeding £500. By 7 & 8 Geo. IV. c. 30, for consolidating the laws of England as to malicious injuries to property; maliciously setting fire to, or destroying any vessel, whether complete or unfinished, and maliciously setting fire to a vessel to prejudice the owner, or the owner of goods on board, or an underwriter, are respectively, by § 9, made punishable (in England) with death. Barratry is one of the losses covered by insurance, and the owner may thus protect himself against the act of the master and sailors appointed by himself. "If the captain be the insured, no agreement on the

art of the insurers can make them liable for barratry committed by himself; but they may be liable in such case for the barratry of the sailors in which he has no art" (*Marshall*, 521). It is the duty of the owner to prevent as far as he may the misconduct of the master; and if the former appear to have acted with gross negligence, the underwriter is not liable. Nor will this last be liable for loss which is the undoubted consequence of the barratry, unless it happen within the time prescribed by the policy for the duration of the risk. (*Park on Insurance*, 137-158. *Marshall on Insurance*, 518-538.)

BARREL, a round wooden vessel formed so as to be stopped close; also a measure of capacity. The beer-barrel equal 36 imperial gallons. The barrel of flour is 196 lbs. avoirdupois. In Ireland the barrel of wheat, pease, beans, and rye, equal 20 stones each of 14 lbs.; the barrel of barley, bere, and rapeseed, equal 16 stones; the barrel of oats is generally 14 stones; the barrel of malt equal 12 stones.

BARREL-BULK, in shipping, is a measure of capacity for freight, equal 5 cubic feet; and 8 barrel-bulk, or 40 cubic feet, equal 1 ton measurement.

BARRIQUE, a French provincial liquid measure, equal in Bordeaux to about 50½ imperial gallons; in Nantes, 52½; in Rochelle, 38½; in Rouen, 43; in Montpellier, for wine, 5½, and for oil, 7½ imperial gallons nearly.

BARTER is the exchange of one species of merchandise for another without reference to a money standard of value. Cases of pure barter are now of rare occurrence.

BARTER in *Commercial Arithmetic* is an application of the rule of Proportion to the exchange of one commodity, of which both the rate and quantity are fixed, for another, of which either the rate or the quantity are alone fixed. As the value of the goods exchanged are equal, it is obvious that the product of the quantities multiplied into their respective rates will be also equal. Hence the following

Rule: Multiply the given quantity and rate of the one commodity, and the product, divided by the rate of the other commodity, gives the quantity sought; or, divided by the quantity, gives the rate.

BARWOOD, a red dye-wood produced in Angola and other places in Africa. Only a small quantity is imported into the United Kingdom.

BARYTES, a ponderous earthy mineral, which is found both massive and crystallized; it is of various colours; and is both transparent and opaque. Sp. gr. 4.5. It is a very widely diffused substance. Chief localities, Dufton in Cumberland, Bohemia, &c. The purely white varieties are ground, and used as a pigment, either alone or mixed with white lead; but it is otherwise of little value. (*Phillips' Geology and Mineralogy*.)

BASKETS (Fr. *Corbeilles*. Ger. *Körbe*. It. *Paniere*. Por. & Sp. *Canastas*) are well known articles, made of willows, twigs, rushes, or splinters, or some other slender bodies interwoven. In England, the osier willow (*Viminalis salix*) is recognised as a most useful material for basketwork of all descriptions. The finer kinds of baskets are formed of the twigs of another species of willow; but what is called wickerwork is always made of osiers.

BASSA, a liquid measure of Verona nearly equal to an imperial gallon.

BAST, the inner bark of the lime tree, is a material largely used in Russia for matting and cordage.

BATMAN, an oriental weight. [MAUND.]

BATTA, a term used in India to denote a per centage, or allowance. Thus the Sicca rupee is said to bear a *batta* of 16 per cent. against the current rupee, as 100 Sicca rupees = 116 current rupees. Batta also denotes an allowance made to the East India Company's military officers in addition to their pay.

BATTENS, pieces of fir or pine timber used for floors, and as a ground for laths. They are always at least 6 feet long, and generally not exceeding 7 inches broad, and 2½ inches in thickness when imported. The best are from Christiania; the worst from America.

BATTEN-ENDS are pieces under 6 feet in length.

BATZE, a small base silver coin in Switzerland and some parts of Germany, worth about three halfpence sterling.

BAVARIA, a kingdom in the S.W. of Germany, and, next to Austria and Prussia, the most important of the German States. Area, about 30,000 British square miles. Population, 4,315,469. It is subdivided into eight provinces. Capital, Munich, pop. 75,000. The government is a limited monarchy, with chambers of councillors and deputies, regulated by a deed of constitution of May 26, 1818.

Bavaria is composed of two territories, which are separated from each other by the interposition of the Baden and Hesse Darmstadt possessions. The larger, called the *Territory of the Danube and Meiss*, extends from lat. 47° 19' to 50° 41' N., and from long. 8° 51' to 13° 44' E., and comprehends seven of the eight provinces. This country is mountainous and woody towards the south;

rising in the direction of the Alps, and containing a number of lakes and marshes, the grounds adjoining which are only now being brought under tillage. To the northward are rich and extensive plains until we reach the Danube, beyond which it is again mountainous and woody. The division called the *Territory of the Rhine*, is a small but densely inhabited country, extending from lat. $48^{\circ} 57'$ to $49^{\circ} 50'$ N., and from long. $7^{\circ} 6'$ to $8^{\circ} 31'$ E. Bavaria is essentially an agricultural country, and its soil, though indifferently cultivated, is in general fertile. Wheat, rye, barley, and oats, are the chief objects of culture; next to which are the vine and hop plant: considerable attention is likewise given to flax, hemp, fruit, liquorice, and madder; and of late, the rearing of the silk-worm has been attempted with partial success. The chief mineral productions are iron, salt, and coal; but quicksilver, gold, silver, cobalt, and some other metals, are likewise found. Manufacturing industry is mostly diffused over a number of small dealers. The principal article is coarse linen; the others are woollens, worsted hose, cottons, hardware, arms, beer, toys, leather, paper, glass, porcelain, and straw-plaiting. A favourable impulse has lately been given to manufactures by the institution of polytechnic societies and mechanic schools.

The roads of Bavaria extend upwards of 5500 miles; but they are generally bad; and there are few complete canals of any great magnitude. The improvement of the means of communication has of late, however, begun to attract attention. A canal on a large scale is now in progress for joining the Danube and the Rhine, by connecting Dietfurth on the Altmühl, an affluent of the former, with Bamberg on the Maine, a distance of about 112 British miles: it is estimated to cost nearly £900,000. In 1835, a railroad with steam-carriages was established between Nuremberg and Furth; and in 1838, a regular steam-communication was established between Ratisbon and Linz in Austria, which in 1839 was extended to Donauwerth and Ulm.

The external commerce of Bavaria is chiefly conducted by the Danube in one direction, and the Rhine in the other. Exports:—Grain, salt, timber, potashes, fruit, liquorice-root, seed, hops, cattle, sheep, swine, fish, flax, yarn, coarse linens, glass, leather, Nuremberg wares, beer, &c., amounting annually to nearly 1,500,000 florins, more than one-half of which consists of manufactured goods. Imports:—Wine, cotton, coffee, sugar, rice, tobacco, drugs, fish, copper, oil, hides and skins, hemp and flax, silks, woollens, lead, furs, honey, and cheese. Salt is prohibited. Bavaria, for an inland country, is favourably situated for commerce; and it is the channel of a considerable transit trade betwixt the other German States and Switzerland, Austria, and Italy, to which the Prussian Commercial Union, of which Bavaria is a member, has given a considerable impulse. The duties on goods imported are in general those of the Union.

The chief commercial and manufacturing cities, besides Munich, are Augsburg, pop. 34,000; Nuremberg, pop. 40,400; and Ratisbon, pop. 22,000. Augsburg formerly occupied the place now held by Frankfort as the chief money-market of Central Germany; and banking and exchange operations are still one of its principal sources of wealth: it also carries on an extensive transit trade, and is celebrated as a wine depôt.

MEASURES, WEIGHTS, MONEY, FINANCES, &c.

Measures and Weights.—In Munich, the ell = $32\frac{1}{2}$ Imp. inch.; the wine eimer of 60 maas = $8\cdot12$ Imp. galls.; the scheffel of 6 metzen or 12 viertels = $9\cdot98$ Imp. bushels; and the centner or quintal of 5 stones or 100 pounds = 56 kilogrammes or $123\frac{1}{2}$ lbs. avoird. Gold and silver are weighed by the Cologne mark, here reckoned at 3600½ troy grains.

These measures and weights have lately been rendered general throughout Bavaria. In the former system of Augsburg, the traders' or long ell = 24 Imp. inches; the fustian or short ell = $23\cdot32$ Imp. inches; the muid of 48 maas = $15\cdot08$ Imp. galls.; the schaff of 8 metzen = $5\cdot65$ Imp. bushels; 100 lbs. heavy weight = 108·30 lbs. avoird.; and 100 lbs. light weight = 104·23 lbs. avoird. The Augsburg mark of 16 loths or 64 quintins = 3643 troy grains.

Money.—The common integer of account is the Rhenish or Bavarian florin, which is divided into 60 kreutzers, each of 4 pfennings. This florin, being coined at the rate of $24\frac{1}{2}$ from the Cologne mark of fine silver, is equal to 1s. 8d. sterling.

In Augsburg, the florin of account and exchange (divided as above) is valued according to the convention rate, as in Austria, making it

worth about 2s. 0½d., and the par of exchange with London, 9 fl. 50 kr. per £1. But in exchanges with Hamburg and Amsterdam the nominal florin, *giro-geld* is valued 27 per cent. higher, or at 2s. 7d. sterling. Retail transactions are conducted in Rhenish money, as above. The usance for bills on Augsburg is 15 days' sight; half usance 8 days. Bill transactions are settled weekly on Wednesday, and those which fall due on that day are not payable till the Wednesday following. Bills have thus from 1 to 8 days' grace; but those drawn *a vista* (at sight), must be paid within 24 hours after being presented.

Banks.—Augsburg, as already noticed, is one of the principal places of Germany for banking and exchange operations. At Munich, a banking company has been established which issues notes, discounts bills, and lends money on mortgage; it is sanctioned by government; but the latter is not responsible for its engagements.

Finances.—The public revenue is about 30,000,000 fl., and the expenditure nearly the same; besides which, the county rates for special provincial disbursements amount to upwards of 4,500,000 fl. The national debt is nearly 130,000,000 fl.

BAY, a celebrated tree (*Laurus nobilis*), a native of Barbary, of the south of Europe, and of Asia. It attains a height of 20 or 30 feet. The leaves are smooth, evergreen, lanceolate, and wavy at the margin; and afford, when bruised or burnt, a grateful aroma, which occasions their employment for culinary purposes. But the part chiefly valued is the fruit or berry, which is small, ovate, dark purple-coloured, aromatic, and bitter. It has long been used in medicine as a stimulant and carminative. The husks of the berries contain a great quantity of volatile oil; and the kernels furnish by expression a fat greenish oil, which is much employed in embrocations. Bay-berries and oil are imported into the United Kingdom from Italy and Spain.

BAZAAR (in Persian a *market*), a term used in Persia, Turkey, Egypt, and India to distinguish those parts of towns which are exclusively appropriated to

trade. The principle of the oriental bazaar is association for facility of reference ; all the shops of a city are placed together ; and the different trades and occupations are severally collected in different parts of the bazaar, instead of being indiscriminately mingled as in our streets. Thus the saddlers are found to occupy one passage, the pipemakers another, and so on. The great bazaars consist of a connected series of these passages, or lanes, vaulted with high brick roofs, surmounted by domes which admit a subdued daylight ; and those of a superior description are sometimes decorated with paintings. The passages are composed of a series of recesses or stalls, the floor of which is raised from two to three feet above the ground. These recesses, which are entirely open in front, are scarcely more than closets ; but in the more respectable parts there is generally a door in the back-wall which leads to another apartment that answers the purpose of a store-room. The front part is the shop, on the floor of which the merchant sits with his goods so placed that he has seldom occasion to rise, which, if he is a Turk, he rarely does without manifest reluctance. Long bargaining is common, and an apparent indifference is exhibited both by buyer and seller ; the latter, as he sits smoking his pipe, being indeed the very personification of luxurious repose. Not only trades, but handicraft employments are carried on in the bazaars. The stocks of the individual dealers are seldom of much value, but an imposing effect is produced by the exhibition of the whole in a connected form, whence arises the splendid appearance of the oriental bazaars. Business commences and terminates with daylight, and none of the shopkeepers or artisans reside in them. Wholesale dealers have no open shops in the bazaars, but they have warehouses in them, or in their vicinity.

In this country, especially in London, the term bazaar is commonly understood to mean an assemblage of shops or stalls under cover, but these are less properly bazaars than Paternoster Row with its books, Monmouth Street with its shoes, and Holywell Street with its old clothes.

BEACON. [BUOY. LIGHTHOUSE.]

BEACONAGE, a charge for the use and maintenance of a buoy, lighthouse, or other beacon stationed for the use of navigators.

BDELLIUM, a gum resin of doubtful origin, produced in Persia and India. It resembles myrrh, for which it is sometimes substituted. It is now disused in Britain, but is to be found intermixed with gum-arabic.

BEADS, small globes or balls made of glass, ebony, pearl, or other materials, and used as necklaces. They are also employed by Roman Catholics for the purpose of counting a series of prayers called the *Rosary*.

BEANS (Fr. *Fèves*. Ger. *Bohnen*. It. *Fave*. Por. *Favas*. Rus. *Boobü*. Sp. *Habas*), the grain of a leguminous plant (*Faba vulgaris*), of which there are two general classes,—those which are cultivated in gardens, termed garden or white beans, and those which are cultivated in the fields, termed field or gray beans. Of these last, the principal are the horse bean and the tick ; the former is the more hardy, the latter is generally of better quality, and more productive.

The bean, though an exhausting crop, is regarded as well suited to prepare the land for wheat or barley. It is sown in February or March ; and except where the dibbling process is resorted to, about 4 bushels of seed are required to the acre ; 40 bushels to the acre are regarded as a great crop ; 30 bushels are a full and satisfactory one ; and probably the average produce of the kingdom does not amount to 24 (*Low's Agriculture*). The field bean is chiefly applied to the feeding of horses, hogs, and other domestic animals. [CORN TRADE.]

BEAVER. [FUR TRADE.]

BÊCHE DE MER, called also tripang, or sea-cucumber, is a very peculiar kind of sea-slug (*Holothurion*), which, after being gutted, pressed, dried in the sun, and smoked, is regarded by the Chinese as a luxury, much in the same way in which we regard caviare. It is carried to China from almost every island of the Eastern Archipelago, from Australia, and of late from Mauritius and Ceylon. The value, as may be seen by the Canton Price-current, varies according to quality, from 6 dollars up to 50 per pecul ; and the natives alone for the most part are judges of its worth. The principal importation into China is by the junks, and the quantity is so considerable that the fishery of it, especially on the coast of New Holland where it abounds, might probably be entered into with advantage by Europeans. (*Edinburgh Cabinet Library*, No. XX. China.)

BEECH, a beautiful and valuable tree (*Fagus sylvatica*), indigenous to most parts of Europe. It thrives best in rich soils and sheltered situations. The wood is of close texture, though not so strong as the grained timbers against a cross strain. When exposed to alternate drought and moisture soon decays, but lasts long when kept constantly wet. Beech is used for machinery, furniture-work,

screws for workmen's benches, presses, stocks and handles of tools ; also for keels of ships, boats, and for planking in parts kept constantly under water. It is, however, little used in building, and though easily turned, it is not adapted for hollow vessels, as it is apt to split when quickly dried after being wet. Beech is also liable to be attacked by worms, so that it is not extensively employed. The small wood makes good charcoal, and the mast or fruit furnishes food for swine.

BEECH-NUT OIL, a fat or greasy oil, resembling that from olives, obtained from the decorticated nuts of the beech tree. These yield, by pressure, about 15 per cent. of oil, and a larger quantity when aided by heat; the remaining cake is reckoned better food for cattle than common oil-cake.

BEEF (Fr. *Bœuf*. Ger. *Rindfleisch*), the flesh of the ox, forms, in a salted state, a considerable article of exportation, especially from Ireland. In 1838 there were exported of the produce of the United Kingdom 42,161 barrels of beef and pork of the declared value of £148,403 ; about two-thirds of which were sent to the West Indies ; and the remainder chiefly to Australia, British America, Mauritius, and India. In the same year 13,108 cwts. of foreign salted beef were imported ; only a small part of which, however, was entered for home consumption.

The importation of fresh, or corned, or slightly salted beef for home consumption is prohibited by 3 & 4 Wm. IV. c. 52, § 58-60 ; and, by 3 & 4 Wm. IV. c. 57, § 43, foreign beef exported from the warehouse must be taken on board as merchandise only, and not consumed as stores.

A barrel of Irish mess beef contains 25 pieces, each of 8 lbs., or 200 lbs. ; a tierce, 38 pieces, or 304 lbs. ; a firkin, 25 pieces, each of 4 lbs., or 100 lbs.

BEEF-WOOD, the produce of a species of *Casuaracea*, which grows in New South Wales, is a hard, close-grained, reddish wood, variegated with dark and white streaks. It is imported in logs of about 9 feet long by 13 inches broad ; and is principally used in forming borders to work in which the larger woods are employed.

BEER (Fr. *Bière*. Ger. *Bier*) is a fermented liquor, made from the malt of barley, and flavoured with hops. It may be called the wine of barley. A variety of kinds are made ; those in use at present being distinguished by the names of Ale, Porter or Strong Beer, Table Beer, and Small Beer, which differ little except in strength, and in the mode of preparing the malt from which they are manufactured.

Ale is brewed from malt which has been dried by the application of only a slight heat, and is of a more sirupy consistence and sweeter taste than porter. The best kinds made in this country are the Scotch and Burton ales. *Scotch ale* is distinguished for paleness of colour and mildness of flavour ; the taste of the hop never predominates ; and it is perhaps more near to the French pale wines than any of the other ales that are brewed in this country : it is like them too the result of a lengthened fermentation. The general mode of charge is by the hogshead (= 1½ barrels or 54 Imp. galls.), for which from £3 to £8 are paid according to quality. This ale is made chiefly in Edinburgh, also at Alloa and Prestonpans. *Burton ale*, brewed at the place of that name in Staffordshire, is prepared from the palest malt and hops, as, if it be not as pale as a straw it will not pass with connoisseurs. It is also distinguished for strength, flavour, and sweetness. It is usually charged by the gallon, as the sizes of the casks differ. Besides the Burton ales, those of Nottingham and Birmingham are sent to the London market.

Porter, or strong beer, is a potent fine liquor, transparent, and of a beautiful brownish colour. It is brewed in the same way as ale, with this difference, that in making malt for porter, a much higher temperature is applied, by which it is slightly burned, so that the wort got from it has a dark colour, and a peculiar bitter taste. Other substances, however, besides malt and hops, are known to be sometimes used to improve its flavour and appearance, though the use of such substances is prohibited. Different kinds of porter are known in trade by particular names and marks. *Mild beer* is beer newly brewed ; *entire* consists chiefly of that made expressly for the purpose of keeping ; *brown stout* is a fine strong kind of porter : the degrees of strength are in some cases marked with an X (single X), XX (double X), and XXX (treble X). For a fuller account of the different kinds of porter, see "*Art of Brewing*," *Library of Useful Knowledge*. The price of a hogshead varies, according to quality, from about £2, 12s. to £5, 2s. ; namely, X, or stout, £2, 12s. ; XX, or brown stout, £3, 12s. ; XXX, or double brown stout, £4, 4s. ; imperial, £5, 2s. London is the chief seat of the manufacture, but Dublin porter is also celebrated. Of late years a general preference is given to mild ale instead of porter ; and several of the most eminent London brewers have had to change their manufacture to suit the altered taste of their customers.

Small beer and *Table beer* are weaker liquors, made either by mixing a large proportion of water with the malt, or by mashing what is left after the porter or ale wort is drawn off, with a fresh quantity of water. The names of *spruce beer*, *ginger beer*, &c. are given to other inferior beverages, consisting of a saccharine liquor, partially fermented, and flavoured with peculiar substances.

The excise duties formerly levied on beer were abolished from and after October 10, 1830, by 1 Wm. IV. c. 51; but a considerable revenue is still derived from the licenses payable for the privilege of manufacturing and selling it, and from the duty on malt.

The Manufacture of Beer is regulated by different statutes. Brewers are required to take out a license from the excise, and to "enter" their premises under a penalty of £200, and forfeiture of the mash-tun and materials. No security is required for the license. Brewers are prohibited from having on their premises any raw or unmalted grain or corn, under forfeiture of the same, and a penalty of £200 (1 Wm. IV. c. 51). The adulteration of beer is also prohibited; and any brewer or dealer in beer having in his possession, making, using, or mixing with any worts or beer, any other articles than malt and hops, shall forfeit such articles and the vessels in which they are contained, and pay £200 for each offence. Druggists or others delivering to any brewer, or dealer, knowingly, any colouring other than unground brown malt, are subject to a penalty of £500 (56 Geo. III. c. 58).

The license duty imposed on brewers shall be paid according to the quantity of malt used by them, reckoning a barrel of beer (36 Imp. galls.) for every two bushels of malt (6 Geo. IV. c. 81; 1 Wm. IV. c. 51).

The Sale of Beer in England is principally regulated by the acts 11 Geo. IV. and 1 Wm. IV. c. 64, 4 & 5 Wm. IV. c. 85, and 3 & 4 Vict. c. 61, the chief enactments of which are the following:—

A party requiring a license for selling beer, ale, and porter, by retail, must produce to the officer of excise a certificate from an overseer of his locality, to the effect, that he is an actual resident in the house for which he claims, and stating the amount in which he is rated to the poor (3 & 4 Vict. c. 61, § 2); must enter into a bond to the commissioners of excise, with one surety of £20, or with two of £10 each, for the payment of any penalty or sum of money, not exceeding the amount of such £20 or £10 respectively, which shall be incurred for any offence against this act, by the party to whom such license shall be granted; and no person licensed to sell beer by retail, or not being a householder paying the poor-rates, shall be surety in any such bond (1 Wm. IV. c. 64, §§ 4, 5). By the late act, licensed retailers must enter all their premises with the excise, under the arrangements of the general excise act [Excise] (3 & 4 Vict. c. 61, § 9).

Every person applying for a license to sell beer to be drunk on the premises, to deposit with the commissioners a certificate of good character, signed by six rated inhabitants of the parish, no one of whom shall be maltsters, common brewers, or persons licensed to sell spirituous liquors or beer or cider by retail; but if there are not ten rated inhabitants in the place, the certificate of the majority of them to be sufficient. Such certificate to be signed by overseer as to rating, under a penalty for refusal of £5 (4 & 5 Wm. IV. c. 85, §§ 2, 3).

Duties on beer licenses under 1 Wm. IV. c. 64 repealed, and in lieu thereof there shall be payable for any license to sell beer off the premises, £1, 1s., and on the premises, £3, 3s. (*Ibid.* § 13). Penalty for making or using false certificates, £50; and licenses obtained on false certificates to be void. Licenses under the said act not to authorize persons to hold licenses for sale of wine. Penalty on persons licensed under the acts permitting wine or spirits to be consumed on the premises £50, besides excise penalties and forfeiture of the spirits, &c. and of the license. Penalty on unlicensed persons selling beer and cider by retail, £5, besides excise penalties. There is a similar penalty against persons allowing beer to be drunk on the premises, when the license is for beer drunk off the premises (3 & 4 Vict. c. 61, §§ 6, 13).

The name and surname of the party licensed to be painted on a board over the door "in letters three inches at least in length, in white upon a black ground, or in black upon a white ground," together with the words "licensed to sell beer by retail," "not to be drunk upon the premises," or, "to be drunk on the premises" (1 Wm. IV. c. 64, § 6; and 4 & 5 Wm. IV. c. 85, § 18).

Certificate not to be required for houses in London or Westminster, or any parish or place within the bills of mortality, nor any city or town corporate, nor within the distance of one mile from the polling place of any town returning a member to Parliament, so that the population according to the last parliamentary census shall exceed 5000 (4 & 5 Wm. IV. c. 85, § 21). By the last act, no premises can be licensed unless they be rated at £15, if in London, or within a mile from the polling place of a town having 10,000 inhabitants; or at £11 where the population is above 2500; or at £8 if situated elsewhere (3 & 4 Vict. c. 61, § 1).

Account of the Number of Licenses granted for the Manufacture and Sale of Beer in the United Kingdom, together with the amount of Duty thereon, in the Year ended January 5, 1838.

	England.		Scotland.		Ireland.	
	No.	Duty.	No.	Duty.	No.	Duty.
House of strong beer not exceeding 26 barrels	6,288	£4,400	49	£79	20	£14
" " " " " "	6,288	£4,400	49	£79	20	£14
" " " " " "	20,445	14,867	89	£14	11	£8
" " " " " "	10,205	24,412	211	£33	24	£17
" " " " " "	1,207	12,822	114	£18	140	£100
House of table beer	14	£2	2	£3	—	—
House of strong beer under 1 Wm. IV. c. 54	10	£4	20	£30	—	—
House of strong beer only not being brewers.	279	£2,004	20	£30	—	—
House of strong beer whose premises are rated under £50 per annum	20,000	£1,000	10,000	£500	10,000	£500
House of strong beer whose premises are rated over £50 per annum	15,000	£750	7,500	£375	7,500	£375
House of strong beer under 1 Wm. IV. c. 54, and 1 & 2 Wm. IV. c. 55, namely	20,000	£1,000	—	—	—	—
To be drunk in the premises	2,000	£100	—	—	—	—
Not to be drunk in the premises	2,000	£100	—	—	—	—

The Exportation of Beer is regulated by 1 Wm. IV. c. 51, § 8-14. A drawback of 2s. is payable for every barrel of 26 imperial gallons exported to foreign parts. But before any drawback shall be paid for such drawback, the exporter, or his principal clerk or manager, shall make oath, before the proper officer of excise, that such beer or ale was exported as merchandise, and no part thereof for the ship's use; and that, according to the best of his knowledge and belief, the same has been brewed wholly from malt which has paid the duty of 2s. 7d. a bushel. He shall also specify in such oath the time when, and the place where, and the brewer, being an entered and licensed brewer for sale, by whom such beer or ale was brewed, and that the quantity of malt used in brewing was not less than 2 imperial bushels for every 26 gallons of such beer or ale. Penalty for false statements, £200, and the drawback is void.

The art of preparing ale and beer for warm climates has now attained a high degree of excellence; but the quantity exported is inconsiderable, when compared with what is consumed at home. It is principally sent to the East and West Indies, Australia, United States, and Brazil. In 1836, 15,148 tons (each of 26 gallons) were exported, of the declared value of £270,915; in 1837, 14,500 tons, declared value, £273,122; in 1838, 13,277 tons, declared value, £217,340.

The import duties on beer and ale are prohibitory, and none is imported.

Historical Notes.—The use of a fermented liquor from barley is of high antiquity, not only in the north of Europe, but even in Spain and Egypt. Ale was a favourite beverage of the ancient Scandinavians, and it was an article of their belief that drinking large draughts of it formed one of the chief duties of heroes in the Hall of Odin. In England, ale appears from a very early period to have been regarded as one of the necessaries of life, but down to the era of the Reformation, the use of wine was also very general.—It being both extensively manufactured from wheat raised in the southern counties, and imported on a considerable scale from the Rhine and other parts. The duty of the ecclesiastical governors at that time, however, and the greater encouragement then given to the growth of grain and the culture of hops, gradually led to the more extended use of ale, which, from the period just stated, may be regarded as peculiarly the national beverage of England.

In ancient times, ale was subject to a variety of statutory regulations in reference to its sale and wholeness; but it was not made an excisable commodity until 1663. The beer duties varied at different periods, and at length were abolished in Ireland in 1795, and in Britain in 1838. The rates levied between 1670 and 1830, were 10s. per barrel (old measure) on strong beer, and 6s. per barrel on table beer, which yielded in the year 1830, in England, £3,125,500, in Scotland, £79,414, in all, £3,204,914. The quantity brewed during the same year in Britain, amounted to 7,720,000 barrels, of which 8,000,000 barrels were strong beer. No record exists of the quantity made since the abolition of the duty, but there can be no doubt that it has very considerably increased.

In the same year (1830) in which the duties on ale and beer were repealed in Britain, by 1 Wm. IV. c. 51, another act of even greater importance, not only to the traders in ale and beer, but to the community generally, received the sanction of the legislature. This was the act 1 Wm. IV. c. 54, already mentioned. Under its provisions which came into operation on the 10th October 1830, any person could obtain a license to sell ale, beer, and porter by retail in England, that privilege being derived from an ancient license costing two guineas, and renewable annually. Previously the Justices of the Peace were alone empowered to grant licenses for the sale of malt liquor. The acts of 1834 and 1835 (4 & 5 Wm. IV. c. 55, and 5 & 6 Vict. c. 51) introduced some new regulations which ought perhaps to have been considered necessary from the first opening of

so liable to be misconducted as that of the sale of fermented liquors. The act of 1834 placed a distinction in England between those who sold beer, &c. for consumption on the spot, and those who sold it only to be consumed elsewhere. Since the passing of the act of 1834, the number of licensed retailers has increased in every part of England; and now probably reached a point at which it will remain nearly stationary. In Ireland and Scotland, the fermented liquor most commonly used is whisky, and the quantity consumed is inconsiderable, compared with England. [MALT. HOPS.]

BEET, a plant, one species of which (*Beta vulgaris*) is distinguished by its large root. Of this species the chief varieties are,—red beet, which has been cultivated in our gardens for the table; white beet, extensively used in France and other parts of the Continent, for the manufacture of sugar [SUGAR]; and field beet [ANGEL WURZEL] used as food for cattle. Another species of beet producing leaves only (*B. hortensis*), forms one of the principal culinary vegetables in the country of France, Germany, and Switzerland.

BELGIUM, a kingdom situated in the W. of Europe, betwixt lat. 49° 27' and 51° 10', and long. 2° 37' and 6° E.; and which, prior to the revolution of 1830, comprised with Holland the United Kingdom of the Netherlands. It is bounded N. by Holland, E. by Prussia, S. by France, and W. by the North Sea. Area, excluding the provinces of Luxembourg and Limburg, now subject to Holland, 11,351 British square miles. Provinces and population in 1839: Antwerp, 365,173; Brabant, 604,950; Flanders, 636,890; E. Flanders, 769,407; Hainault, 643,410; Liege, 400,780; Luxembourg, 151,617; Namur, 167,885; total, 3,972,937; of which nearly 300,000 are Germans and Dutch, the rest Belgians, that is Walloons and Flemings, belonging to the Greco-Latin stock and speaking a French dialect.

Brussels; pop. in 1839, 104,713. Government, a constitutional monarchy, consisting of a king, a senate and house of representatives; the members of both chambers being elected by those citizens who pay not less than 20 florins (33s. 3d. sterling) annually in taxes.

The country is in general a level country, except in the provinces of Liege and Namur, where the surface is irregular and in some parts hilly. The soil of the flat country is in most parts sandy; but is rendered exceedingly fertile by the constant application of manure, to which the attention of the cultivator is especially directed to the rearing of cattle. The climate resembles that of the S. of England, but more variable; and the common objects of agriculture are wheat, rye, barley, oats, buckwheat, potatoes, turnips, hemp, flax, beet, hops, and with artificial grasses; a variety of fruits are also grown, and some tobacco. About one-third of the country are under cultivation, and of the remainder, the greater part is occupied by towns, roads, canals, and railways, which cannot be deemed unproductive. The most cultivated provinces are those of the north and west, which in their flatness, fertility, dikes, &c., closely resemble Holland; and are so thickly inhabited as to present the appearance of a continuous village.

Mineral productions are numerous and abundant, particularly in the S. and E. portions of the kingdom, comprehending Hainault, Namur, Luxembourg, and Liege; and the working of these constitutes a valuable branch of the national industry. Of the mineral products, the first in importance is coal, the extraction of which employed in 1836, 31,190 men; and there were produced 22,000,000 hectolitres, worth 32,000,000 francs. The three great centres of the coal trade are Mons, Charleroy, and Liege. Iron mines are numerous, especially in the district between the Sambre and the Meuse; and in 1836, the quantity of prepared ore worked up was 1,000,000 tons, corresponding to double that quantity taken from the mines. Lead is found in Namur, and in Luxembourg, especially at Longrilly; copper in Hainault and Liege; zinc in Namur and Hainault; besides which the mineral products of the S. and E. provinces are manganese, calamine, sulphur, and alum, also various kinds of stone, slate, marble, and wood for the manufacture of porcelain.

Manufactures, Belgium formerly excelled all other states, but they gradually declined while the country was under the dominion of Spain, and became comparatively inconsiderable. Since the revolution of 1830, however, a new impulse has been communicated to all branches of industry, and one of the most important of the manufactures is that of woollen cloths (particularly black cloth), the chief seats of which are at Verviers, Liege, and Dalhem; carpets are made at Tournai and Ghent, St Nicolas, Termonde, Courtray, Ninove, and other places. The cotton manufacture, in which there is invested in fixed capital in buildings and machinery about 100 millions of francs, employs upwards of 120,000 hands; Ghent, St Nicolas, Antwerp, and Mechlin are the principal factories. The breeding of the silk worm was introduced in 1826, and the silk manufacture is rising into importance in Antwerp, Siene, and Uccle near Brussels. The lace manufacture at Mechlin has long been celebrated; and ribands of every kind are made in large quantities at Antwerp, Tournay, and Ypres. The smelting and manufacture of iron, copper, and steel are carried on extensively from the abundance of these metals and of coal, and charcoal from the forests; the principal groups of forges are between the Meuse and the Sambre, at Charleroy, on the banks of the Meuse, extending from its entrance into Belgium to the limits of Namur, at which last place the coke furnaces, which have been doubled in number since 1837, are of larger dimensions and power than any in Europe: the iron manufactures comprehend cannon, and firearms, all made on a great scale in Liege; and cutlery and iron manufactures in various localities. The chief other manufactures are those of hosiery, employing about 100,000 hands, mostly in the arrondissement of Tournay; porcelain at Sept-Fontaines, Brussels, and Tournay; glass at Namur, Liege, Val-St-Lambert, and Charleroy; beet-root and sugar refining at Ghent; besides beer, leather, salt, paper, hats, and a great variety of other manufactures.

articles. Much of the rapid progress observable in almost every branch of industry of late years is due to the facilities and encouragements afforded by the government, but individual enterprise has been also conspicuous. Amidst many instances of this kind, there is one in particular so essentially national to Belgium, so identified with its prosperity, and of a celebrity so truly European, that it is impossible to leave it unnoticed. We allude to Mr John Cockerill of Liege, one of the most distinguished persons who has yet appeared in the manufacturing world. He is concerned in upwards of 50 manufacturing establishments; Germany, France, and Poland possess some of them; but the greatest number are situated in Belgium. Of these the most remarkable for its intrinsic qualities of vastness and solidity, as well from its being the seat of government, so to call it, of Mr Cockerill's scattered empire of mechanical enterprise, is that of Seraing, on the banks of the Meuse, near Liege, where no fewer than 3700 men are employed in coal-mines, iron-works, blast furnaces, and in the manufacture of steam-engines and other machines.

The internal commerce of Belgium is facilitated by magnificent rivers, particularly the Meuse and the Scheldt, the latter being navigable as far as Cambray in France. There are also numerous canals. We can only mention the great Northern Canal, from Neuss on the Rhine (in Prussia) by Venloo on the Meuse to Antwerp, and with which communicate, by means of the Scheldt, the Lievre and Bruges canals; the Ostend and Dunkirk canals, reaching the sea at different points; the Brussels canal; and the Louvain canal. The railways, likewise, owing to the flatness of the country, have been introduced with a success unknown even in Britain. According to a law passed in 1834, it was provided that a system of railroad should be established in the kingdom which, having Mechlin for its centre, should lead towards the east by Louvain, Liege, and Verviers, to the Prussian frontier; towards the north to Antwerp; towards the west by Termonde, Ghent, and Bruges, to Ostend; and towards the south, over Brussels, and through Hainault, to the French frontier: the costs of the execution, and the superintendence, to devolve upon the government; and the tariff for the use of the railroads to be fixed yearly by a law. The works began immediately after the publication of the law, and have since been forwarded with great success. In 1830, they comprised an extent of 150 British miles; while those which are decided upon towards France will embrace a further distance of 90 miles. So persevering besides is the activity of the government in the improvement of the country that large sums are also voted for new roads and canals, although Belgium is already so rich in the facilities of communication. Of the public works, not a few, such as the railroads for uniting the Scheldt and the sea with the Rhine, and the constructions towards the German frontier, have been projected with the view of rendering comparatively unproductive to Holland the rivers which had secured to her the commercial monopoly of the Rhenish provinces, and the transit trade to Germany.

The external commerce of the kingdom suffered from the revolution of 1830, but it has again revived, and now shows a progressive improvement, corresponding with that which has occurred in the other branches of industry. The exports chiefly consist of bark from the trees of the Belgian forests, of which nearly 350,000 cwts. are annually exported to Great Britain alone, seeds, especially clover, coal, of which immense quantities are annually sent to France, where it is received on more favourable terms than that from England; spelter, flax, hops, linens, lace, carpets, and firearms; the last being sent in large quantities to Brazil, from whence they are again exported to Africa in exchange for slaves. The imports are principally composed of tropical produce, especially coffee, tobacco, and cotton, British manufactures, wool to the annual value of £550,000, chiefly from Germany, Poland, Hungary, and the southern provinces of Russia, and wine. The following account, abridged from the Tables of the Board of Trade (vol. v. p. 338), furnishes a general view of the commerce of Belgium for the first four years after its separation from Holland.

	Value of Imports into Belgium.				Value of Exports from Belgium.			
	1831. £	1832. £	1833. £	1834. £	1831. £	1832. £	1833. £	1834. £
France.....	584,995	2,249,768	1,927,505	1,425,952	1,684,749	2,420,365	2,226,618	3,121,534
Holland.....	404,419	348,399	730,426	1,073,436	281,826	321,765	708,048	712,274
Prussia, Hanse Towns, & Ger- many. }	448,474	1,166,399	1,284,820	1,064,743	1,188,953	1,288,684	862,425	1,484,344
Great Britain ..	1,550,224	3,289,102	2,643,877	2,102,649	528,743	318,173	414,154	323,988
Russia.....	54,463	300,434	224,850	180,044	....	23,036	10,205	22,065
United States... }	327,802	1,215,723	935,722	710,876	14,486	28,641	85,084	57,500
Cuba.....				298,315				24,825
Hayti.....				166,084				72
Brazil.....	280,763	273,704	308,435	399,367	120,000	11,818	10,984	16,694
Other countries..	269,383	492,772	645,110	531,211	43,454	37,196	129,153	114,754
Total,	3,920,523	9,336,301	8,700,745	7,952,677	3,862,211	4,449,678	4,446,669	5,878,050

Since 1834 the trade has no doubt increased, though the shipping possessed by Belgium still remains inconsiderable. At the revolution in 1830, many of the Belgian shipowners placed their vessels under the flag of Holland, as the latter retained all the colonies which formerly belonged to the two kingdoms jointly; and though some increase has since taken place, yet, on 31st December 1837, the number of merchant vessels belonging to the Belgian ports (including river ports), was only 156, and their tonnage 21,690; this included 5 steamers, but was exclusive of about 100 fishing sloops. (*Board of Trade Tables*, vol. vii. p. 286.)

The imports from the United Kingdom consist partly of foreign and colonial merchandise, but chiefly of British produce and manufactures. The declared value of the latter imported from 1831 to 1838 was as follows:—1832, £690,899; 1833, £886,429; 1834, £750,059; 1835, £818,487; 1836, £839,875; 1837, £804,917; 1838, £1,068,010; which last is equivalent to two-thirds of the British exports to Holland and Belgium jointly in 1821. The imports from Britain chiefly consist of sheep's wool, woollen, linen, and cotton yarns, machinery, iron, steel, hardware and cutlery,

pecially the finer kinds, cotton manufactures and small wares, woollen cloths, silks, brass, copper and pewter manufactures, and salt. A considerable portion of these goods, especially the wares and cloths, are not intended for consumption in Belgium, but are smuggled across the French frontier; this is partly done by dogs trained for the purpose by being pampered in France, and half-starved and otherwise ill-used in the former country.

The bonding yards are at Antwerp, Bruges, Brussels, Courtray, Ghent, Liege, Louvain, Mechlin, Mons, Nieuport, Ostend, Ruremonde, Tournay, and Venloo.

Belgium communicates with the sea by Antwerp, Ostend, and Nieuport, by the canal of Bruges to Oostburg, by the canal of Dunkirk to Furnes, by the canal of Ghent to Terneusen, by the canal of T-rimonde to Hulst, by the Scheldt from Flushing to Antwerp, by the same river and the canal of Willebroek from Brussels to Antwerp, and by the canal of Louvain and the Scheldt from Louvain to Antwerp. But the only seaports of any consideration are Antwerp and Ostend.

Antwerp, a strongly fortified and magnificent town, is situated in $51^{\circ} 14' N.$ and $4^{\circ} 22' E.$ on low ground, on the right bank of the Scheldt, where the river makes a considerable bend. Population in 1838, 77,162. It is about 45 miles from the mouth of the Scheldt, reckoning from Flushing, where vessels bound for Antwerp must take a Dutch pilot as far as Lillo. The river at Antwerp is about 400 yards broad, and large vessels may sail up to the quay, and into a large basin; the depth at low water in front of the city being from 32 to 42 feet. Its commerce is still considerable, though far below what it was in the fifteenth and sixteenth centuries, when it had a population of 200,000, and 2000 vessels annually entered its port. In 1829, 995 ships arrived; 690 in 1830; and only 382 in 1831; but since this last year the shipping has greatly increased, and in 1837 the number of vessels which entered was 1426, and the amount of their tonnage, 225,750.

Ostend, a fortified seaport of West Flanders, is situated in $51^{\circ} 10' N.$ and $2^{\circ} 54' E.$ Population, 11,390. It possesses great facilities for carrying on trade with the interior by means of railways and canals. The town is almost surrounded by two of the largest of these, particularly that leading to Bruges, into which ships of great tonnage may enter with the tide. The number that arrive annually is from 300 to 600.

MEASURES, WEIGHTS, MONEY, FINANCES, &c.

Measures and Weights.—The French metrical system was introduced in 1820.

The following old measures are still partially used:—The Antwerp silk ell = 27.32 Imp. inches, and woollen ell = 26.97 Imp. inches; the Brabant ell = 27.58 Imp. inches; the aam of 50 stoope = 34 Imp. galls; the valte = 4.1 Imp. galls; the last of 37 viertels = 10½ Imp. qrs.; and 100 lbs. Brabant weight = 103.35 lbs. avoird. The Brabant league is 6076 yds.

Money.—The general monetary unit is now the French franc, which is divided into 100 centimes, and equal 9½d. sterling. In some places the Dutch florin or guilder (= 1s. 8d. sterling) is still retained, particularly in foreign exchanges; and in others the Brabant florin; the latter is divided into 90 sous, each of 12 deniers; 6 florins Dutch or Netherlands currency = 7 florins Brabant currency; 189 Dutch florins = 400 francs; and 110 florins 5 sous Brabant currency = 200 francs. The national coins are similar to those of FRANCE.

The usance of bills from London is 1 month's date. No days of grace are allowed.

Banks.—The *Société Générale pour favoriser l'Industrie*, instituted in 1822, with a charter for 27 years, discounts bills, receives deposits, makes

loans, and in various ways facilitates commerce. Its capital (exclusive of a reserved fund) consists of 50,000,000 florins, or 105,820,000 francs (£4,166,666), and it issues notes to the amount of 40,000,000 francs, in sums of 50, 100, 500, and 1000 francs. The *Bank of Belgium* at Brussels was founded in 1835, with a charter for 25 years. Its capital is 20,000,000 francs, and its banking operations are similar to the society just named. Both are in part under the control of the government, and possess numerous dependencies. In 1837, the *Commercial Bank of Antwerp* was instituted with a capital of 25,000,000 francs; and numerous other institutions of the same nature exist in different parts of the kingdom.

Finances.—The public revenue in 1839 amounted to £4,163,821; the expenditure to £4,476,613. The national debt consists, 1st, of 100,000,000 francs, borrowed in 1831-32, at 5 per cent., chiefly for the organisation of the army; 2d, of 30,000,000 francs, borrowed in 1836, at 4 per cent., for railways and other means of communication; 3d, of a floating debt of 25,000,000 francs, at 3½ per cent., principally for railways and roads; total, 155,000,000 francs, or £6,200,000. This is exclusive of the Belgian portion of the debt of the Netherlands.

BELL-METAL, an alloy consisting of three parts of copper and one of tin. A little zinc is added to small shrill bells.

BEN-OIL, a fat or greasy oil procured by expression from the decorticated seeds of the *Guilandia moringa*, a tree which grows in Ceylon, Arabia, Egypt, and Ethiopia. It is inodorous, and does not readily become rancid; hence its excellence for the manufacture of jasmine, tuberoses, and other scented oils.

BENZOIN, **BENJAMIN**, or **FRANKINCENSE**, is the concrete resinous juice of the *Styrax benzoin*, a tree growing in Sumatra, Java, and Borneo. It is sometimes called a gum, but appears rather to be intermediate between resins and balsams. Benzoin is now chiefly employed to yield benzoic acid, and for other purposes in medicine. It is also used as a cosmetic, and to burn in censers in Roman Catholic churches.

“Benzoin occurs in large masses, on which the impression of the reed mats is visible. It is quite dry, and easily pulverizable, of a brownish-red colour, spotted with clear red, and, in proportion to its fineness, has intermixed a larger number of tears (*Benzoe amygdaloides*), resembling in size and form almonds, with an even fracture, having a greasy lustre, and translucent; while the mass is opaque, uneven in its fracture, and occasionally porous. Its taste is sweetish, balsamic, and resinous; its smell, especially when rubbed or kindled, pleasant and balsamic. Sp. gr. 1.068. The large masses, quite opaque, of a brownish or blackish colour, and destitute of white grains, is called benzoin in sorts.” (*Duncan's Dispensatory*.)

Benzoic Acid is commonly extracted from benzoin; but it exists also in storax, the balsam of

of Peru and Tolu, and other substances. "The usual process consists in boiling finely powdered gum benzoin in a large quantity of water, along with lime or carbonate of potash, by which means a benzoate is formed. To the solution, after being filtered and concentrated by evaporation, muriatic acid is added, which unites with the base, and throws down the benzoic acid. It is then dried by a gentle heat, and purified by sublimation" (*Turner's Chemistry*). Sublimed benzoic acid, or *flowers of benzoin*, which should alone be used for medical purposes, occurs in white needle-like prisms, of a flocculent appearance when in mass, with a soft, silky lustre; taste, at first sweetish, but afterwards pungent; odour peculiar, and highly characteristic. Sp. gr. 0.637. It is scarcely soluble in water, but completely in alcohol.

BERGAMOT, the fragrant fruit of the Bergamot orange-tree (*Citrus Bergamia*), from the rind of which an essential oil of delicious quality is obtained, both by pressure and distillation. This oil or essence is limpid, fluid, and yellowish, with a smell resembling that of oranges. Sp. gr. 0.888. It is used as a perfume.

BERMUDAS. [WEST INDIES.]

BERRI, a Turkish road measure, equal 1826 Imp. yards.

BERRIES are soft and succulent fruits, having their seed lying loosely among pulp. A description of those chiefly imported will be found under the heads of bay, juniper, and yellow berries.

BERYL, an ornamental stone, differing little from emerald, except in colour. The emerald is green; all the varieties of other colours, tinged more or less yellow and blue, or altogether colourless, are beryls. Common form, the hexahedral prism; transparent, translucent, or opaque; lustre, vitreous. Sp. gr. 2.75. Localities, Brazil, Siberia, France, and United States. Such varieties of beryl as are clear, transparent, and exhibit brilliant shades of sky-blue, or mountain-green, are denominated by lapidaries *aqua marine*, or precious beryl. They are principally brought from the Brazils, and occur in considerable masses. (*Phillips' Mineralogy*.)

BETEL, an East Indian plant (*Piper betel*), the leaf of which, mixed with the fruit of the Areca palm (*A. catechu*), commonly called betel, or pinang nut, and fine lime [CHUNAM], forms a hot and acrid masticatory, in almost universal use in India and the Malayan Archipelago. The mixture is used by both sexes, and at all ages. It is said to be aromatic and stomachic, and also to produce intoxication in those not habituated to its use.

The chewing of betel forms an important branch of eastern etiquette. Marsden states "this custom is universal among the Sumatrans, who carry the ingredients constantly about them, and serve them to their guests on all occasions; the prince in a gold stand, and the poor man in a brass box, or mat bag. The betel-stands of the better ranks of people are usually of silver, embossed with rude figures. When the first salutation is over, the betel is presented as a token of politeness, and an act of hospitality. To omit it on the one hand, or to reject it on the other, would be an affront; as it would be likewise in a man of subordinate rank to address a great man without the precaution of chewing it before he spoke. All the preparation consists in spreading on the sirih, or piper betel leaf, a small quantity of the chunam, and folding it up with a slice of the pinang-nut. From the mastication of these proceeds a juice which tinges the saliva of a bright red, and which the leaf and nut, without the chunam, will not yield. This hue being communicated to the mouth and lips is esteemed ornamental; and an agreeable flavour is imparted to the breath. The juice is usually (after the first fermentation produced by the lime), though not always, swallowed by the chewers of betel." (*History of Sumatra*.)

BETEL-NUT, or **ARECA**, forms an article of extensive commerce from port to port in India; and a very large quantity is annually carried to China. The nuts are seldom imported into Britain, though Mr Milburn thinks they might be of use in some manufactures, as they are employed in dyeing cottons in Coromandel and Malabar.

BEZANT, a gold coin so called from Byzantium, the ancient name of Constantinople, which, during the middle ages, furnished most of the European kingdoms with gold money. Bezants were the *solidi* of the old scale; they were six to the ounce, and were in use till after the time of William Rufus. Bezant appears likewise to have been a term applied to all kinds of gold coin, and it was succeeded in the same general sense by the *gulden* or florin.

BEZOAR, an animal concretion highly valued in the East, where it is supposed to possess many extraordinary medicinal virtues. The greater portion is procured from the intestines of ruminating animals. The most highly valued is obtained from the stomach of the *Capra aegagrus*, or wildgoat of Persia. Bezoars have long fallen into merited disuse in Europe.

BILL OF ENTRY, a note of the particulars of goods entered at the Custom-house, delivered with certain duplicates to the collector or comptroller of the port, according to the terms of the Customs Regulation Act, of which an abridgment will be found under the head Customs.

BILL OF EXCHANGE may be defined a written order directing one party to pay a sum of money to another—either the person who gives the order or some third party—at some day fixed or ascertainable. The individual who issues the order

is called the drawer ; the person to whom it is addressed is called the drawee [DRAWER AND DRAWEE], until he consent to honour the draft or obey the order, after which he is called the acceptor [ACCEPTOR]. The bill may be passed from hand to hand by delivery or indorsation, according to circumstances [INDORSATION], and in the latter case, the person who makes over is called the indorser, and the person who receives the indorsee. He who is in the legal possession of the bill, and the obligation contained in it, is called the holder or the payee. Bills of exchange, as one of the most prompt and powerful engines in conducting trade, are peculiarly privileged by the law, requiring few words, and no solemnities of execution. There is no particular form for a bill of exchange required by law, farther than that the mandate to pay in money be distinct, and the person who is to pay, the person who is to receive, and the time of payment shall be ascertainable beyond a doubt. A mere request to pay money is not a bill, for the drawee is presumed to be the drawer's debtor, and the bill must be an absolute assignment of the debt ; nor is an acknowledgment of debt, or a promise to pay which is part of a bargain for the sale of goods. Where a bill has all the apparent requisites, though an expression which takes it out of this species of document be fraudulently introduced to escape observation, it would appear that it will still be held a bill against the committer of the fraud. This was held where the word "at" was introduced in very small letters within the tail of the S of Sir in the address to the drawee (*Allan v. Mawson*, 4 *Camp.* 115). An order to pay in any thing other than cash is not a bill, as "in East India bonds," "in bank-notes," &c. The amount must be specific, and therefore the addition of the words "or whatever else may be due," would vitiate a bill. The money must be payable "at all events," and any condition which may affect the certainty of the declared intentions of the parties to hold it an absolute order to pay at some time or other, will vitiate the bill, as, where A B agrees to pay when C D shall marry, or at a certain time if C D be alive then, or if C D shall have disposed of certain property. From the time when a bill is drawn and delivered, it becomes by the operation of the contract of mandate, a document of debt in favour of the payee, for he who in fulfilment of an obligation gives an order on another to pay, becomes himself responsible on that other not performing. If the drawee is not indebted to the drawer, or as it is commonly termed, has "no effects," he will not be liable, even though he has accepted, to the drawer, but third parties who have received the paper for value, are not affected by the obligations between the original parties, otherwise than as they appear on the bill. [ACCOMMODATION BILL.]

A drawer generally appends his usual signature at the foot of the mandate. The acceptor to whom it is addressed generally signs below the drawer, either with or without the word "accepts" before his name. An indorser commonly puts his name on the back, with or without a direction to pay to a particular person. [DRAWER. ACCEPTOR. INDORSER.] It is a common practice to mention on the face of a bill that it is "for value received ;" but this is not necessary, and in the general case value is presumed, and need not be proved by the party pleading it unless where a bill has been originally obtained through fraud, or in the case of a transfer by delivery by a person not entitled to make delivery, or in that of a bill which has been stolen. In Scotland the presumption of value is so strong that no evidence will be received to contradict it but the writ or oath of the party pleading it. Persons may come under general obligations as to bills which have to be made specific by the acts of others. Thus if one makes a bill blank in the name of the payee, any *bonâ fide* holder is entitled to fill in his own name. A person who delivers a blank bill stamp, drawn or accepted, is liable for whatever sum, covered by the stamp, may be filled in. Bills may be subscribed by procuration. Whoever takes such a bill, however, must assure himself of the procurator or agent's authority to grant it, for if he exceed his powers, the bill will not be effectual against his employer. A person who signs "per procuration" should mention that he does so, otherwise he will be personally liable.

Bills of exchange are divided into foreign and inland ; the former are drawn in one country and payable in another, the latter are drawn and payable in the same country. A bill drawn in one of the three British kingdoms on a person resident in another, is, for some purposes, considered a foreign bill. The peculiar privileges which attach to bills as negotiable instruments, were first awarded to foreign bills, or to those drawn in Britain and payable abroad, and arose out of the absurd notions regarding the balance of trade. By 9 & 10 Wm. III. c. 17, and 3 & 4 Anne, c. 9, in England, and by the act 1696, c. 36, in Scotland, inland bills were placed in the same situation with foreign ; and in most essential points, the laws as to

both are analogous to each other. The chief distinction is in the practice of protest in England, which is necessary on occasion of the dishonour of a foreign bill, but is limited in effect and practice in inland bills. [PROTEST.] Foreign bills are generally drawn in several sets or parts, transmitted by different conveyances, in order that if any one or more should be lost, another may arrive safe for being presented. Each bears that it is payable on the others not being paid, as, "pay this my second bill of exchange, first and third of the same tenor and date not being paid," &c. The drawee of a bill drawn in sets should only accept one of the sets, as it is held that if he accept one set, and afterwards pay another set, he will not be liberated from the claim of a *bonâ fide* holder of the accepted ones.

By special statute in England, all bills under 20s. are void, and those between that sum and £5 must be made payable within twenty-one days after date, contain the name and description of the payee, and bear date at the time of making. They must likewise be attested by a subscribing witness (15 Geo. III. c. 51, 17 Geo. III. c. 30, and 27 Geo. III. c. 16). [INDORSEMENT.] Persons negotiating in England bills or notes under £5, or on which less than £5 remains undischarged, made in Scotland or Ireland, or elsewhere out of England, forfeit a sum not less than £5, or more than £20 (9 Geo. IV. c. 65, § 1). Bills of exchange must be on a proper stamp. In Britain there is a distinction in the scale of duties for those drawn not exceeding two months after date, or sixty days after sight, which are said to be at short date, and those at longer periods, which are said to be at long date (55 Geo. III. c. 184, Sched.). There is no such distinction in the schedule of the Irish stamp act, 56 Geo. III. c. 56. There are separate tables for bills drawn in sets, each set requiring to be stamped. The principal exemptions are, bills issued by the Bank of England; bills drawn in pursuance of the acts for paying and supplying the army and navy (55 Geo. III. c. 184, Schedule). By 9 Geo. IV. c. 49, § 15, drafts on bankers within fifteen miles of the place of drawing are exempt, provided the place where the draft is issued be specified, and they bear date on or before the day of issue, and do not direct payment to be made by bills or promissory notes. Although, as above stated, a document which is not an order to pay money "at all events," is not entitled to the privileges of a bill, yet an order on any particular fund which may or may not be available, or depending on a contingency which may never happen, if made payable to bearer, or to order, or delivered to a payee, requires a stamp (Sched.). Persons connected with the issue of bills not duly stamped, forfeit £50; and persons post-dating bills, for the purpose of bringing them under the smaller duty applicable to bills at short date, or being in any way accessory to the issue of such post-dated bills, forfeit £100 (55 Geo. III. c. 184, §§ 11 & 12). Persons evading the stamp-duties under colour of the exemptions in favour of bank notes, and bills, and drafts, forfeit £100 (§ 13). A bill not duly stamped is not admissible as evidence of any description of obligation, and cannot be regarded by a court of justice (31 Geo. III. c. 25, § 19, and 55 Geo. III. c. 184, § 8). It is no objection to the stamp on a bill, that it is of greater denomination than that required by law, or that it is a stamp adapted to a different purpose (if of the assigned or greater denomination), provided it have not the different purpose stated on its face (55 Geo. III. c. 184, § 10). A bill cannot properly be stamped after it is issued; but if the commissioners have stamped it, the period of applying the stamp cannot be objected to against the holder of the bill. But where a bill is stamped, of the proper or higher value, with a wrong denomination on the face of it, it may be re-stamped.

Bills, though they are of the nature of a "chose in action," which is not strictly assignable, may be transferred from hand to hand or negotiated. [CHOSE IN ACTION.] In England, to enable this to be accomplished, there must be negotiable words, such as "or order," "or bearer;" in Scotland this is not requisite. A bill payable to A B, or order, is indorsable by A B, and payable to his indorsee. A bill payable to A B, or bearer, is payable to whosoever holds it, A B's name not affecting the nature of the document. The various parties upon a bill, besides the acceptor, indorsers, drawers, and others, become liable for its payment on failure of the acceptor. The acceptor's failure to pay is commonly said to be an act of dishonour. If the drawee refuse acceptance, this likewise is dishonour, and is held to be such a prospective refusal of payment as entitles the holder to claim immediately from the drawer, or, if there be an indorser, on that indorser, who has recourse on the drawer; but to entitle him thus to recur on the original parties, there are obligations on the holder, without performing which he is held not to have duly negotiated. He must present the bill for acceptance and for payment on the proper occasions. [PRESENTMENT.] He must give notice of non-acceptance, or of

ment ; and in particular cases he must have the bill protested in such circumstances. [NOTICE. PROTEST.] In Scotland due negotiation gives a bill which irregularity on its face a peculiar privilege, by which it is held as the decree court, and put in immediate execution, unless cause can be shown for suspension. [DILIGENCE, SUMMARY.] Bills of exchange cease in England to be doers of debt on the expiry of six years from the time named for payment. Geo. IV. c. 14, § 3, no memorandum of part payment by the party receiving it is sufficient to take a bill out of the rule. In Scotland, by 12 Geo. III. c. 37, and 23 Geo. III. c. 18, § 55, no action can be commenced on bills after six years from the time of payment. This provision does not affect the debt or action on which the bill proceeds, which is still open to be proved otherwise. *Bayly on Bills. Chitty on Bills. Thomson on Bills.*)

FORM OF ORDINARY INLAND BILL.

London, January 1, 1840.
 3 months after date, pay to me or order, One Hundred Pounds, for value received.
 John Smith.
 William Anderson.
 For William Anderson, Merchant, Glasgow.
 This admits of the following variations, according to circumstances :—Instead of "three months after date," it may be "at sight," or at such a time "after sight," or at such a specified time "on demand ;" and the instruction to pay may be "to AB or order."

FORM OF A PROMISSORY NOTE.

London, January 1, 1840.
 3 months after date, I promise to pay to Mr John Smith, or order, One Hundred Pounds, for value received.
 William Anderson.
 The variations above noticed, in regard to a bill, are all applicable, so far as they are consistent with the nature of the document.

FORM OF A FOREIGN BILL.

Havana, April 1, 1840.
 30 days after sight of this FIRST of Exchange (Second and Third unpaid), pay to the order of Lamb and Thompson, Five Hundred and Forty Pounds sterling, value received ; and to account, with or without advice of
 Thomas Forbes.
 John Walker, Esq., Liverpool. }
 payable at the office of
 Messrs Barclay and Company, London.
 The drawing of the payee admits of the same variations as are exhibited in an inland bill. The term "at sight" is sometimes employed to express the period of running in foreign bills. It means a time fixed by custom as between any two places, and the period covered by a usance will there depend on the places of drawing and payment. "An usance between this kingdom and Amsterdam, Rotterdam, Hamburg, Altona, or Paris, or any place in France, is one calendar month from the date of the bill ; an usance between us and Cadiz, Madrid, or Bilbao, two ; an usance between us and Leghorn, Genoa, or Venice, three." (*Bayly on Bills*, 251.)

BILL OF HEALTH. [QUARANTINE.]

BILL OF LADING is the acknowledgment given by the master of a ship for goods shipped. It is a negotiable instrument. Several parts or copies are made for the use of the master, the others for the shipper, who, by means of them, can give a title to the consignee or other person for whom the goods are shipped, to receive them. The following is an ordinary form of a bill of lading :

Shipped in good order and well-conditioned by John Smith & Co., in and upon the good ship called the Elizabeth, whereof is master for this present voyage William Nelson, and now riding in the river Douro, and bound for Leith, ten hogsheads red Port Wine, being marked and numbered as in the margin, and are to be delivered in the like good order and well-conditioned at the aforesaid port of Leith, the dangers of the seas only excepted, unto Mr Henry Ivison, or to his assigns, he or they paying freight for the said goods, sixty shillings sterling per ton, with primage and average accustomed. In witness whereof, the master of the said ship hath affirmed to three bills of lading, all of this tenor and date, one of which bills being accomplished, the others to stand void.

W. NELSON.

Oporto, April 6, 1840.

When the goods are put on board, a receipt is generally given by the master ; afterwards exchanged by the holder for the bill of lading. It must be written and stamped. It will be observed that there is a clause, as in bills of exchange, in sets, providing that one set being honoured, the others are void. The bill has two objects. It fixes the amount and condition of the goods received, and in which the shipmaster is responsible [AFFREIGHTMENT], and conveys a title to the goods. It may, like a bill of exchange, be negotiated by simple indorsement and delivery, which will carry a right to the goods. No intimation to the shipmaster is necessary, he being bound to deliver to the holder. Notwithstanding the negotiability of the negotiable instrument, the goods are still liable to be stopped *in situ*, as in the hands of a middleman before they reach the consignee.

[STOPPING IN TRANSITU.] If the bill has been indorsed for value by the consignee, or his authorized agent, the property is passed, and the right to stop ceases. The right to stop is not barred by delivery of the bill unindorsed to a third party, nor by indorsation without value, or with knowledge on the part of the indorsee that the goods will not be paid for by the indorser, and that the transaction is fraudulent, nor where the indorsee has received notice of the consignee's insolvency. The indorsee however is not held bound to inquire into the ability of the indorser to pay for the goods, and to secure him it is not necessary that he should take the bill without notice that the goods have not been paid for; it is sufficient if he have not received "notice of such circumstances as rendered the bill of lading not fairly and honourably assignable" (*Cumming v. Brown*, 9 *East*, 516. See *Salomons v. Nissen*, 2 *T. R.* 674). Partial value will give an onerous right to a corresponding extent, and to that extent bar stoppage. Where the indorsee undertook to make advances which he failed to make, it was held that a claim on previous advances was no bar to the right to stop (*Newsom v. Thornton*, 6 *East*, 17); but "where the consignee, before his insolvency, and before the goods had arrived, has indorsed the bill of lading to a third party as a security for advances, the equitable right of the unpaid vendor to stop the goods (although he has no strictly legal right to resume possession even after the claim is satisfied) continues, subject only to the amount of such claim; and, if the indorsee holds in his hands any other property belonging to the insolvent, the unpaid vendor has an equity to compel him to resort to it in the first place." (*Morton on Vendors and Purchasers*, 196, 197. *Holt on Shipping*, 359-378. *Smith's Mercantile L.* 243-246. *Bell's Com.* i. 198, 219.)

BILL OF PARCELS is an account of goods sold given by the seller to the purchaser. It usually contains the description, quantity, price, and amount of each article; with a statement of the place, date, and terms of credit.

BILL OF SIGHT, a form of entry at the custom-house, by which goods, respecting which the importer is not possessed of full information, may be provisionally landed for examination. The bill must contain "the best description that can be given," and a perfect entry is required to be made within three days. [CUSTOMS.]

BILL OF STORE, a form of writing by which certain kinds of goods may be entered at the custom-house for reimportation; also a custom-house license permitting the provisions and stores necessary for a ship's voyage to be shipped duty free and without entry: this last is sometimes termed a *Victualling Bill*. [CUSTOMS.]

BILLINGSGATE. [MARKETS.]

BILLON, in *coinage*, a base alloy of gold or silver (generally the latter) in which copper is predominant. The word is derived from the French, but its origin is doubtful. In Spain billon money is called *moneda de vellon*.

BIRCH (*Betula alba*), a graceful forest tree, common in the cold parts of Europe. It is valuable for poor elevated soils, and on wet or springy land; but is seldom planted on favoured soils, as its timber is not durable, and in little esteem. It is chiefly used for underwood, and by the turner and wheelwright. In Scotland it is much employed for undressed palings; and sometimes cut into staves for ber-ring barrels. It affords good charcoal. The bark yields a yellow dye for wool, and also the oil used in making Russia leather. The black birch of America (*B. lenta*), imported into this country, is a compact handsome wood; but it soon decays. It is used for forming the slides of dining-tables, and similar purposes.

BIRD-LIME, an adhesive, tenacious, vegetable product, obtained principally from the inner bark of the holly by bruising, long boiling in water, and fermentation; the mass being again boiled in water and evaporated to a proper consistence. This kind is of a greenish colour, odour resembling that of linseed oil, and having a bitter taste. Bird lime is also procured from the berries of the mistletoe, and other plants. In commerce it generally occurs in an impure state.

BIRD NESTS (EDIBLE), in oriental commerce, a celebrated luxury of the table, highly esteemed by the Chinese. They are the nests of a species of swallow (*Hirundo esculenta*) common in the Eastern or Malayan Islands, from whence immense quantities are exported into China. The nest when pure is of a cream-white colour, semitranslucent, and in shape and size like a quarter of an orange. It is muco-albuminous, and in soup possesses little or no taste,—at least to the European palate. In the preparation of this dish by the Chinese, however, such a number of fine stimulants are generally added, that of right it occupies the first rank amongst relishes at their tables. These nests are said by Meyen (*Quarterly Review*, vol. liii. p. 333) to be formed of the sea-weed, *Sphærococcus cartilagineus* var. *setaceus* ag. The swallow eats the fresh weeds, and permits them to soften for

some time in its stomach, after which it throws up the mass now converted into a jelly, and sticks it together to form the nest. The nests are brought in their raw state to China, where they are cleaned in immense warehouses built for the purpose, and then exposed to sale. They are accounted in that country highly restorative.

The quantity of edible birds' nests annually exported from Java to China is estimated at no less than 200 peculs; of which by far the largest proportion is the produce of the Javan rocks and hills. The price which those nests of the best quality have of late years brought in the Canton and Amoy markets has been 40 Spanish dollars per catty. They are usually classed into first, second, and third sorts, differing in price from 40 to 15 Spanish dollars, and even 10 and less for the most ordinary. In the Malayan islands in general but little care is taken of the rocks and caverns which produce this dainty, and the nests procured are neither so numerous nor so good as they otherwise would be. In Java, where perhaps the birds are fewer, and the nests in general less fine than those to be met with in some of the more eastern islands, both the quantity and the quality have been considerably improved by European management. The caverns which the birds are found to frequent are cleansed by smoking and the burning of sulphur, and the destruction of all the old nests. The birds are then left undisturbed to form their nests, and the gathering takes place as soon as it is calculated that the young are fledged. If they are allowed to remain until the eggs are again laid in them, they lose their pure colour and transparency, and are no longer of what are termed the first sort. Much of their excellence and peculiar properties, however, depend on the situation of the place in which they are formed, and the nature of the different substances to which they are fixed. The best are procured in the deepest caverns (the favourite retreat of the birds), where a nitrous dampness continually prevails, and where, being formed against the sides of the cavern, they imbibe a nitrous taste, without which they are little esteemed by the Chinese. (*Ruschenberger's Voyages.*)

BIRDS OF PARADISE, a genus of birds (*Paradisea*) remarkable for the extreme elegance and richness of their feathers. There are various species, but perhaps the most elegant is that which is best known and oftenest seen—the great emerald (*P. apoda*). The beauty of the male of this species exceeds all description; and even the most magnificent drawings cannot represent the vivid and changing tints of the originals. The feather of these birds is much sought after to decorate the turbans of oriental chiefs, and in this and other countries is employed for the same purposes as the feathers of the ostrich. In dimensions the various species differ considerably. The bodies of most are not larger than that of a thrush, although the thickness of their plumage makes them appear the size of a large pigeon. They are found only in the Papuan islands, from whence they are carried by the natives to the Dutch settlements in the Spice islands; and are imported into Europe almost wholly from Batavia, the number of which it receives annually is stated by Dr Ruschenberger at 1500, valued at 10,000 florins.

The natives of New Guinea entrap the birds, or shoot them with blunt arrows; and they prepare the skins with considerable nicety, having removed the true wings, which are not so brilliant as the other feathers, and cut off the legs. The absence of feet in all the birds of paradise brought to Europe gave rise to the fable that they had no power of alighting, and were always on the wing. Their migratory habits may probably also have given some colour to this tale. At the nutmeg season they arrive in flights in the East Indian islands, where, according to popular belief, the strength of this spice so intoxicates them that they fall dead drunk to the earth.

“Those golden birds that, in the spice time, drop
About the gardens, drunk with that sweet food
Whose scent hath lur'd them o'er the summer flood.”—*Moore.*

BIRMA, AVA, OR BIRMAN EMPIRE, is situated on the western part of the Eastern Peninsula of India, betwixt 15° and 28° N. lat. It is bounded N. by Assam and the adjacent states; E. by Siam, and the Shan nations; S. by Siam, the sea, and the British district of Martaban; and W. by the sea and the British possessions of Aracan and Bengal. The area is estimated at nearly 200,000 square miles, and population at 4,000,000. The capital is Ava, in 21° 50' N. 95° 50' E.; pop. 50,000. The government is a despotic monarchy; but the sovereign, called *Bea*, has two councils, a public and a private one, through which his edicts are issued.

The two great divisions of the empire, Ava and Pegu, are throughout intersected by the river Irrawady, which, rising in the chain of the Himalaya, flows through several mouths into the gulf of Martaban. Ava occupies the upper or northern district of the Irrawady; and Pegu, in the lower or southern district, is a sort of delta entirely traversed by the alluvial branches of this river. Beyond the banks of the Irrawady, little is known respecting the interior. In the northern part of Ava, the country is mountainous and irregular, and the valleys generally narrow, but near Amarapura, the country opens up; and the portion betwixt that city and the mouth of the Kym Daun, is the most fertile and populous part of the empire, containing Ava and several other considerable towns. Below Ava the Irrawady is a majestic river, and betwixt 18° N. lat. and the sea, it throws off a great number of branches of various magnitudes, watering an immense district, and affording an internal navigation scarcely equalled in any country. Gold, silver, copper, tin, iron, lead, and antimony are found in Birma, chiefly in the mountainous districts on the N. E.; but the metallic riches of the country are much neglected; coal, amber, nitre, salt, and

limestone also exist abundantly in various places; the most remarkable mineral product, however, is petroleum, or mineral oil, an enormous quantity of which is produced from wells near Prome, and used throughout the provinces, yielding a large revenue to government.

The principal vegetable productions, in a commercial point of view, are catechu and teak; the latter, though generally diffused throughout the country, is mostly obtained from the forest of Sarawadi, betwixt the high and low lands. The chief objects of cultivation are rice, maize, millet, wheat, various pulses, palms, sugar-cane, tobacco, cotton, and indigo. Tea is grown near Amrapoura, but its leaf is coarse, and is seldom used but as a pickle. The seasons of Birma have a general resemblance to those of Bengal.

The internal commerce of the empire is considerable, being greatly facilitated by the Irrawady, and its tributaries: the foreign is nearly limited to a caravan trade with the Chinese, and the maritime trade at Rangoon. The intercourse with the Chinese takes place at annual fairs at Bhanmo and Medi, near Ava; and the commodities supplied by them consist chiefly of raw silk, copper, orpiment, quicksilver, vermilion, iron pans, brass ware, tin, lead, alum, silver, gold and gold leaf, earthenware, paints, carpets, rhubarb, tea, honey, velvets, spirits, musk, verdigris, dry fruits, paper, fans, umbrellas, wearing apparel. The principal exports are raw cotton, with ornamental feathers, edible birds' nests, ivory, horns, and a small quantity of British woollens. The total amount of this trade, including imports and exports, is from £400,000 to £700,000.

Rangoon stands in 16° 47' N. lat., 96° 15' E. long. on the northern bank of a branch of the Irrawady, about 28 miles from the sea; pop. 20,000. The climate, as in Calcutta, is divided into the cold, hot, and rainy seasons. In November, Fahrenheit varies from 60° to 86°, and in March and April from 72° to 101°. The town is accessible to very large vessels. A bar on the river has only about 2 fathoms at low water, but the rise and fall of the tide is frequently 21 feet. Rangoon having long been the asylum of bankrupts from different parts of India, is crowded with foreigners of desperate fortune, and the exchange exhibits a motley assemblage, such as few towns can present. The river is commodious for the building and repairing of ships, and vessels of from 600 to 900 tons are built here of excellent workmanship. The principal trade is carried on with Calcutta, Chittagong, and Dacca. The chief article of export is teak timber, besides which there are quantities of cotton of a superior quality, formerly used in the manufacture of Dacca muslins, gold and silver, catechu, stick-lac, ivory, glue, &c. The imports consist of British cotton manufactures, areca and cocoa nuts, tobacco, wrought and unwrought iron, copper, lead, quicksilver, borax, nitre, arms and ammunition, opium, sugar, arrack, rum, British earthenware, glass, &c. The duty on exports at Rangoon is 5 per cent.; on imports, 12½ per cent.

Measures and Weights.—The taong or cubit = 19·10 imp. inches; the taing or league of 1000 tas or bamboos, or 7000 taongs, = 2 British miles 193 yds. The ten or basket of rice of 4 saits or 64 sales = 16 vis, or 57·36 lbs. avoird., but is commonly reckoned at ¼ cwt. Grain, pulse, fruit, salt, and lime, are bought and sold by measure; most other commodities by weight. 1 paiktha or vis of 100 kiats = 3·59 lbs. avoird., but is commonly reckoned at ¾ lbs.; and the candy of 150 vis at 500 lbs. avoird.

Money is reckoned decimally as in China. No coin is minted. The circulating medium is chiefly composed of gold and silver bullion, which is estimated by the tical or kiat = 251 troy grains, and worth in silver, which is the standard, about 2s. 8d. sterling. Pieces of lead are used in small payments. The quantity of alloy in the precious metals varies considerably, and great waste is occasioned by frequent assaying.

The intercourse between the British and Burmese is regulated by a treaty between the two governments in 1826.

BISCUIT (Dan. *Skibstvebak*. Du. *Scheepsbeschuit*. Fr. *Biscuit*. Ger. *Zweiback*. It. *Biscotto Galetta*. Por. *Biscoito*. Rus. *Bort*, *Ssucher*. Sp. *Biscocho Galleta*), a kind of bread chiefly used by seamen, which is baked in the form of flat cakes in order to insure their being deprived of moisture, and so preserved from becoming mouldy during the continuance of long voyages.

BISMUTH (Fr. *Bismuth*. Ger. *Wismuth*), a brittle reddish-white metal; texture foliated; in hardness is between copper and lead; sp. gr. 9·83; sensible odour and taste; fusible at 460°. It is scarcely malleable, breaks under the hammer, and cannot be drawn into wire. Bismuth is a very rare metal. It is occasionally found native, but is usually obtained in a combined state in Cornwall, Bohemia, Saxony, and Sweden. As met with in commerce it is impure, generally containing iron and arsenic, and probably some other metals. It is used for communicating fusibility to other metals, as in forming *solders*; also in making some kinds of pewter. In the arts it is often called *tin glass*. A white powder called *magistery of bismuth* or *pearl white* is obtained from the nitrate of bismuth, and used in medicine as a tonic. (*Brande, Fyfe, &c.*)

BIT, a West Indian silver money, worth about 5d.: it is properly the Spanish real of provincial plate (= 2 reals vellon). The term is likewise applied to the small circular piece frequently cut out of the centre of the hard dollar.

BITUMEN, or *Mineral Pitch*, a combustible substance, of which there are several kinds. *Elastic Bitumen* is of various shades of brown, and has a highly bituminous odour. Hitherto it has only been found in the Odin Mine near Castleton, in Derbyshire. *Compact Bitumen* is of a brownish black colour; one variety called *maltha*, may be impressed by the nail; another called **ASPHALTUM** is very hard and brittle. The softer variety has not been put to any use, but the harder is used for a great many purposes.

The mineral oils, **NAPHTHA** and **PETROLEUM**, are also sometimes included under

of bitumen. These substances are found in the earth, or issue from its surface, though commonly stated as minerals, they are all of vegetable origin. (*Geology and Mineralogy.*)

KING, a factitious shoe-black, in general composed chiefly of ivory black

KLEAD. [PLUMBAGO.]

K-WOOD, a term generally applied to the timber of different species of trees which grow in various parts of the East Indies. The best is the red or ebony of the Mauritius. The logs are of various sizes; but those 12 inches in diameter, long, and straight, are preferred. They are to be chosen with a bark and white wood, without cracks, not worm-eaten or decayed. This is used for turning, inlaying, and other purposes. The black-wood of Van Diemen's Land is the timber of the *Acacia melanoxylon*.

KILNETS, a soft loosely-woven woollen stuff, commonly used for bed covering, is a considerable branch of the British woollen manufacture. The best is from unmixed British wool. Localities of the manufacture, Dewsbury, Halifax, Dalverton, and Glamorganshire, and on a small scale at Hawick in Scotland, and Kilkenny in Ireland. This trade has experienced a great increase in late years. The quantity exported in 1820 amounted to 1,288,409 yards; in 1839, it had risen to 3,148,846 yards: of which 1,951,743 yards were to the United States, 364,351 yards to British America, and 339,968 yards to India.

KLINGING POWDER. [CHLORIDE OF LIME.]

KNIFE, a native sulphuret of zinc. [ZINC.]

BLOCKADE, in the law of nations, takes place when a fort, city, or other place is shut up to one of two belligerent powers, is watched by the troops or ships of war; for the purpose of preventing the ingress or egress of people or effects, especially with the view of starving the garrison into submission. Commercial wars arise principally from blockades to seaward, and they generally come under the form of cases before the admiralty courts, for the condemnation of vessels which have infringed the blockade, or in insurance questions when a breach of warranty of neutrality is alleged. [INSURANCE.] The operations of France and England during the late war brought forward several very important questions about the effect of declarations of blockade. Between the Belligerents on the one hand, and the Orders in Council on the other, two powers were bound to Europe and America to be in a state of blockade as respects the one or the other, and had the principles been carried to their full extent against all violations of these proclamations, the seas would have been converted into one arena of piracy and rapine. It has been held, however, that to be acknowledged in a law court, a blockade must be an actual and effectual one. "In the definition of a complete blockade," says Lord Stowell, "it is included, that the blockading force can apply its power to every point in the blockaded state. If it is not, it is no blockade of that quarter where its power cannot be brought to bear, and where such a partial blockade is undertaken, it must be presumed that it is no more than what was foreseen by the blockading state, which nevertheless is not proper to impose it to the extent to which it was practicable" (4 *Robinson's Reports*, 66, 67). The circumstance, however, that from the state of the wind, or other warlike operations of the besieged, a neutral ship has been able to pass the blockade, will not affect its legality; indeed were it not that there are always reasons in favour of evasion, there would be few discussions as to the extent of the blockade. On the part of this country, a blockade is proclaimed by an Order in Council. It is believed, that in distant regions, a commander of a ship of war has no right to extend such a blockade, but certainly not within the limits of Europe. Neutral merchants cannot be bound to observe one of which their governments have not received official notice. (*Chitty's Law of Nations*, 128-147. *Marshall on International Law*, 74, 75.)

KNIFE, a species of LACE. There are both black and white blondes, which may be either real or in imitation. The best of the former are imported from France, being extensively manufactured at Alençon in Normandy.

KID-STONE is a species of calcedony coloured by chlorite, with numerous red spots like drops of blood; it is called also heliotrope and oriental jasper. It is found in India, Siberia, Iceland, Isle of Rum, though the best comes from China. It is in request by the Chinese as an ornament to their girdle-clasps.

BLUBBER is the fat substance (*Adeps*) found immediately under the skin, and in the muscular layers of whales and other large sea animals, and of which train-

oil is made. In the whale, it invests the body about six inches thick ; but near the under lip it is found two or three feet thick.

BOARD, in carpentry, means timber sawed to a less thickness than nine inches ; all above that thickness are called *planks*.

BOARD (Fr. *Bureau*), a term used to designate, in their collective capacity, certain persons to whom is intrusted the management of some department, office, or joint-stock association. Thus the lords of the treasury, the commissioners of customs, and the persons chosen from among the proprietors to manage the operations of a bank, are, when met together for the transaction of the business of their respective offices, styled the Board of Treasury, the Board of Customs, the Board of Directors.

BOAT, a small uncovered vessel, commonly moved by rowing.

The owner of every vessel shall paint, or cause to be painted, upon the outside of the stern of every boat belonging to such vessel, the name of the vessel, and the port or place to which she belongs, and the master's name withinside the transom, in *white* or *yellow* roman letters, not less than *two inches* in length, on a *black ground*, on pain of the forfeiture of such boat not so marked, wherever the same shall be found. And the owner of every boat not belonging to any vessel, shall paint, or cause to be painted upon the stern of such boat, in white or yellow roman letters of two inches in length, on a black ground, the name of the owner or owners of the boat, and the port or place to which she belongs, on pain of forfeiture (3 & 4 Wm. IV. c. 53, §§ 8, 10, 11, 12).

Every pilot-boat or vessel, or other boat or vessel in the service of any corporation or society established by law in relation to pilotage, or of, or belonging to, any person authorized to act as a pilot by such corporation or society, shall at all times, and on every station, be painted or tarred entirely black, except the name or other description now required by law to be painted on such boat or vessel (3 & 4 Vict. c. 68, § 2).

BOBBIN, a kind of small cord made of linen or cotton. The common bobbins, made of linen, are for progressive sizes known by the dealer as Nos. 5, 7, 9, 11, 13, 15. *Scotch bobbins* are made of cotton, of the same numbers, and designed to imitate the preceding. They are purchased by the dozen, and are usually contained in papers each of two dozens (*Perkins on Haberdashery*).

BOBBIN-NET, a kind of net-work made by machinery, and generally bearing the characteristics of **LACE**.

BOISSEAU, a French corn-measure, equivalent to nearly one-third of an imperial bushel.

BOLE, an earthy mineral, formerly an article of the *Materia Medica*, but now disused in Europe, except occasionally as a veterinary medicine. It is dull, of various colours, and has a greasy feel. Localities, Armenia, Saxony, Tuscany, Ireland, Skye. Armenian bole is still used in the East.

BOLIVIA, or **UPPER PERU**, a state of S. America, situated between lat. 9° 30' and 25° 40' S., and long. 58° and 71° W. ; boundaries, N. and N. W. the States of North and South Peru, E. Brazil and Paraguay, S. La Plata States and Chili, and W. the Pacific Ocean. Area, 318,000 square miles. Pop. about 1,000,000, more than three-fourths being Indians and mixed races. It is divided into six departments, Chuquisaca, La Paz, Oruro, Potosi, Cochabamba, and Santa Cruz, which again are subdivided into provinces. Capital, Chuquisaca or La Plata, an inland city, pop. 18,000. The government is republican, the executive power being vested in a president for life, with the privilege of naming his successor ; and the legislative functions nominally in three bodies, a senate, tribunes, and censors.

The country presents very different conditions of surface, elevation, and climate. It is traversed by the Andes, particularly towards the W., while on the E. it stretches out into plains, which are watered by the Beni, Mamore, and other rivers which unite to form the Madeira, the largest affluent of the Amazon, and the Pilcomayo, one of the chief branches of the Plata. This region is fertile, but it is nearly covered with vast primeval forests. In the plains, the climate is hot and unhealthy, except in the elevated valley of the Desaguadero, where it is temperate, especially during the winter season, from May to November. Earthquakes are common on the coast.

The mineral productions are gold, principally found on the E. declivity of the E. Cordillera of the Andes, and in the sands of the rivers which fall from that range ; silver from the mines of Potosi, which, however, are now much less productive than formerly. In the year 1837, the number of marcs of silver coined at the mint of Potosi was 243,538, value £414,015 sterling ; in the same year, the number of marcs of gold coined was 1367, value £39,506 (*Board of Trade Tables*, v. vii. p. 335). Besides the precious metals, copper is procured at Corucucero, and other places ; there are also lead, tin, salt, brimstone, and nitre. Of vegetable products, the chief is timber ; the cocoa of Apollobamba and Moxas is celebrated ; the sugar cane and tropical fruits flourish in profusion on the banks of the Beni ; and the E. of the Andes abounds in cascarilla, indigo, cotton, rice, coffee, tobacco, canes, cinchona, copaiba, sarsaparilla, gum-elastic, vanilla, and other valuable drugs and dye-woods. The manufactures principally consist of cottons and glass made at Oropesa ; woollens at La Paz ; and hats at St Francisco de Atacama.

The commerce is inconsiderable, owing chiefly to the difficulties which have to be encountered in bringing the produce to market. The people have not yet learned to avail themselves of the navigable affluents of the Amazon and La Plata, by means of which an intercourse might be opened with the ports on the E. coast of S. America ; and at present the trade with Europe takes

can only through the ports of the Pacific, which cannot be reached except by tedious passages. The only Bolivian port, is traversed by only one road, that from Oruro, and that is practicable only for mules and llamas. Cobija, though a free port, is therefore but little frequented, the Bolivians preferring to obtain their foreign imports through Arica and Yumbura, ports of Lower Peru, notwithstanding a heavy duty of 5 per cent. being there imposed upon them. These imports chiefly consist of hardware and a few articles of luxury. The exports, from the custom already assigned, are nearly altogether confined to portable commodities, such as the precious metals, woolens, and hats.

Money and Weights same as in Peru. Money is reckoned in dollars, each divided into 100 cents. The Bolivian national or hard dollar, when of full weight, is worth nearly 34 cents, being equal to the rate of 84 from the Comptroller's office (= 2000 very grains), of silver, 36 7/8ths fine, or of the standard of 10 dwt. and 10 grains pure, out of 12 dwt. But since the year 1825, all the silver coins issued from the mint of Potosi, with the exception of dollars, have been of the standard of 8 dwt., about 30 per cent. less than the national standard; and although the issue of this small and base coin is continually restricted to \$500,000, this regulation is not always adhered to, thus in 1826 the issue amounted to \$500,000; in 1827 to \$500,000, and in 1828 to \$500,000. The Public Revenue was in 1826 \$1,700,719; the expenditure in the same year is said to have been \$1,200,000.

The territory of Upper Peru was detached from the Spanish viceroyalty of Peru in 1776, and annexed to that of Buenos Ayres. It was delivered from the Spanish yoke by the victory of Ayacucho in 1824, and, in 1825, a congress assembled from the different provinces, declared it an independent republic, under the name of Bolivia, in honour of General Bolivar, by whom the country was liberated, and its constitution framed. (Page.)

BOLL, a measure for corn in Scotland prior to the introduction of the Imperial system. It was divided into 4 strits, 16 pecks, or 64 lippies or lippies; and 16 bolls made 1 chaldier. In each county, however, the barley-boll (used also for oats and malt) differed commonly from the wheat-boll (used also for pease, beans, rye, and oats). The Linlithgow or Scottish standard barley-boll = 0.720140 imperial quarter, and the Linlithgow wheat-boll = 0.480125 imperial quarter.

To convert Linlithgow wheat-bolls into imperial quarters, multiply the former by the fraction 0.480125, or, approximately substitute for the wheat-boll, strit, peck, and lippy, the imperial half-quar, bushel, peck, and half-gallon respectively; or, more exactly, multiply the number of bolls by 2000, and divide the product by 4097.

To convert prices per Linlithgow wheat-boll into prices per imperial quarter, multiply the former by 2.08333, or, approximately, take the double of the price per wheat-boll, or, more exactly, add to the price per wheat-boll a halfpenny for every pound, and then double the result.

To convert Linlithgow barley-bolls into imperial quarters, multiply the former by 0.720140, or, approximately (as 20 barley-bolls equal 24 imperial quarters exactly), deduct 1/5th from the barley-boll.

To convert prices per Linlithgow barley-boll into prices per imperial quarter, multiply the former by 1.37333, or, approximately, add 4d. per bushel to the price per barley-boll, or, more exactly, add to the price per barley-boll its fourth part, together with the half of the fourth part.

On the other hand, to convert imperial quarters into Linlithgow wheat-bolls, multiply the former by 4097, and divide the product by 2000, and to reduce the price per imperial quarter to the price per wheat-boll take a halfpenny per pound from the former, and then halve the result.

To convert imperial quarters into Linlithgow barley-bolls, multiply the former by 1.37333, or, approximately, multiply the imperial quarter by 11, and divide the product by 8; and to reduce the price per imperial quarter to the price per barley-boll, multiply the former by 0.720140, or, in round the price per imperial quarter a farthing for every pound, from the result take 1/5th part, and then from the remainder take 1/5th part.

The Linlithgow measures were in use only in the counties of Linlithgow, Edinburgh, Dumfries, Haddington, Lanark, Peebles, Perth, and Wigtown. In the other counties the measures differed generally, both from the Linlithgow and from each other. The following Table shows the relative proportions of these local measures to imperial, as fixed by the verdicts of juries in the different counties, in terms of the act 3 Geo. IV. c. 74, § 18.—

TABLE showing the number of Bushels, Pecks, and Gallons, Imperial Measure, equivalent to one Boll of the Old Scottish local Measures.

	Imp. Meas. Sc.			W. Meas. Sc.				Imp. Meas. Sc.			W. Meas. Sc.		
	B.	Pk.	Gals.	B.	Pk.	Gals.		B.	Pk.	Gals.	B.	Pk.	Gals.
Aberdeen...	6	1	1-344	6	3	1-436	Kirkcaldie, South part	6	0	0-100	6	0	1-079
Angus, Inverary...	6	1	0-411				Kirkcaldie	6	3	0-386	3	3	1-019
— Arbroath	6	3	0-405				Kirkcaldie						
— Castle	7	3	1-014				— West of Flow.	10	2	1-311			
Arg.	7	3	0-043	3	3	1-007	— West of Flow.	11	2	1-007			
Baird	6	1	0-384	4	1	0-361	— East of Flow.	9	3	1-340			
Barnsley	6	3	0-007	3	3	1-111	— East of Flow.	9	3	0-011	3	3	1-004
Bass	7	3	0-750	3	3	1-376	— East of Flow.	6	0	1-007	4	3	0-003
Castlemore	6	1	0-388				— East of Flow.	7	3	1-376			
Charnock	6	0	1-410				— East of Flow.	6	1	0-440	3	3	1-004
Charnock	6	1	1-010	3	3	1-043	— East of Flow.	3	3	1-376	3	3	1-000
Charnock	6	0	1-000	4	0	1-001	— East of Flow.	6	0	0-440	4	0	0-440
Charnock	6	3	0-007	4	0	0-100	— East of Flow.	7	3	0-000	3	0	1-300
Charnock	6	3	1-363	4	0	0-100	— East of Flow.	7	1	1-376	4	3	0-703
Charnock	6	0	0-704	4	0	1-079	— East of Flow.	6	1	1-011	3	3	1-010
Charnock	6	0	0-017	4	0	0-004	— East of Flow.	6	0	0-100	3	3	1-004
Charnock	6	1	1-004	3	3	1-004							

The standard Scottish meal-boll contained 8 Dutch or Lanark stones, equal 139·135 lbs. avoirdupois, but usually reckoned 140 lbs., in consequence of the Lanark stone being estimated at 17½ lbs. avoirdupois.

In the flour measure at present in use a boll is reckoned equal to 140 lbs. avoirdupois: this boll is divided into 10 stones or pecks, and 2 flour bolls equal 1 sack. [BUSHEL MEASURES AND WEIGHTS.]

BOMBAY. [EAST INDIES.]

BOMBAZINE, a twilled fabric, having its warp of silk, and its shoot or weft of worsted. The worsted is thrown on the right side which has a twill upon it. It was formerly made entirely for mourning garments, but it is now manufactured of various colours. Bombazines are all woven with silk of the natural colour and dyed afterwards. The pieces are generally sixty yards long; the width is intended for ½ yard, but seldom measures more than half a yard, oftener under than over. They are almost wholly made at Norwich, where the manufacture was introduced by Flemish artisans, who fled from the persecutions of the Duke of Alva. [SILK MANUFACTURE.]

BOND. A description of obligation which assumes a variety of forms, and is connected with many of the contracts separately considered in this work. A simple bond is an obligation to pay money, generally with interest, at a certain time, or under certain circumstances.

IN ENGLAND, "a bond, or obligation," is defined as "a deed whereby the *obligor* [or person bound] obliges himself, his heirs, executors, and administrators, to pay a certain sum of money to another [the obligee] at a day appointed" (*Blackstone's Com.* ii. 339). A bond must be under seal, and thus constitutes a higher obligation than a simple contract. An obligation by bond extinguishes a simple contract debt, but the bond of a surety will not extinguish the debt of the principal (*White v. Cyler*, 6 T. R. 176). A bond being a *chose in action* [CHOSE IN ACTION], cannot be assigned so as to enable the assignee to pursue on it in his own name; but by modern practice the assignee sues in name of the obligee, a power to that effect being inserted in the assignment. It is usual to grant bond to pay a certain sum, provided a certain act is not performed; or, more properly speaking, to grant an obligation which shall be void if a particular act be performed. It is thus not illegal by the usury laws to take a bond for a larger sum than the principal and legal interest of a debt, if the debt be not paid by a day certain. "Where a penalty is inserted merely to secure the enjoyment of a collateral object, the enjoyment of the object is considered in equity as the principal intent of the deed, and the penalty is only accessional, and only operates to secure the damage really incurred, until the actual damage sustained shall be ascertained by an issue (*Bacon's Ab., Obligations, A.*). By 4 & 5 Anne, c. 16, §12, "where an action of debt is brought upon any bond which hath a condition or defeasance to make void the same upon payment of a less sum at a day or place certain; if the obligor, his heirs, executors, or administrators, have, before the action brought, paid to the obligee, his executors, or administrators, the principal and interest due by the defeasance or condition of such bond, though such payment was not strictly made according to the condition or defeasance, yet it shall and may nevertheless be pleaded in bar of such action, and shall be as effectual a bar thereof as if the money had been paid at the day and place according to the condition or defeasance, and had been so pleaded;" and by §13 of the same statute, if, during the dependence of an action on a bond with penalty, the defendant tender in court the principal sum, with interest and costs, he shall be discharged. Though the claim of the obligee is adjusted to a fair demand of principal, interest, and damages, yet where these exceed the principal sum and penalty, the court will not generally carry the debt beyond the penalty in the bond. Recourse may sometimes, however, be had by insisting on specific performance of the original agreement, the performance of which is to relieve the obligor from the penalty in the bond. A bond requires no particular form, provided it distinctly set forth an obligation to pay money, and be sealed and delivered. By 55 Geo. III. c. 184, "a bond in England, and a personal bond in Scotland, given as a security for any definite and certain sum of money," is liable to an *ad valorem* stamp, commencing with £1, where the sum does not exceed £50. The same scale of duties applies where the bond is "given as a security for the repayment of any sum or sums of money to be thereafter lent, advanced, or paid, or which may become due upon any account, together with any sum already advanced or due, or without, as the case may be." Where the total amount to be recovered on such an obligation is unlimited, the stamp-duty is £25. One of the chief advantages of a bond is, that it binds not only the obligor but his heirs in specialty, so that the holder's claim

as precedence of those who are creditors by simple contract, over the assets, real and personal, of the deceased. By 3 & 4 Wm. IV. c. 104, however, which first made real property assets for simple contract debts, the debtor must have expressly bound himself "*and his heirs*," to give a preference over the *real* estate. A court of equity will order voluntary bonds, or other special contracts, without consideration, to be postponed to genuine debts, though merely "simple contract" debts (3 *P. Wms.* 222). By the statute of limitations, simple contract debts are barred by the expiry of six years from the time of their origin. By 3 & 4 Wm. IV. c. 42, § 3, action may be brought on a bond at any time within twenty years from its falling due. Bonds, though granted simply for payment of money, if made in furtherance of any illegal or immoral contract, may be barred by pleading the nature of the transaction (*Blackstone's Com.* ii. 339-341. *Bacon's Abridgment, Obligations*).

IN SCOTLAND, the bond is of two kinds, moveable and heritable. The former resembles the English bond, and is employed for an equally great variety of purposes,—among others, for that of accomplishing cash-credits with banks [CASH-CREDIT]. Sureties or cautionries, out of the course of mercantile transactions, and requiring much formality, are generally accomplished by bonds of cautionry. In Scotland it is not the practice to seal deeds. A bond is executed for all practical purposes, and proves itself until reduced or disproved, if signed in presence of two male witnesses, who sign with the obligants, and whose names and designations are recorded in the body of the deed, along with that of the writer, and the day and place of executing. It is usual to insert a clause of registration, by which the bond may be summarily enforced without the intervention of a court of law [REGISTRATION, CLAUSE OF]; but to admit of this recourse, the obligation must be so precise and certain, that it may at once be enforced without farther inquiry, and so nothing must be left to future ascertainment, though there is an exception in the case of cash-credits, the sum for which execution proceeds in their case being fixed by reference to an account extracted from the bank books. [CASH-CREDIT.] Heritable bonds are bonds on real property, and bear some resemblance to mortgages in England. The simple heritable bond is now little used as a security for money, but is generally united with the disposition in security, which being a reversionary transfer of the property itself to the lender, affords greater facility for procuring payment from the estate (*Burton's Manual*, 543-546).

BONDED GOODS. [WAREHOUSE.]

BONES. The bones of animals have long been used in turnery and other arts. In this country, however, their chief use is as a manure on light soils, particularly for turnips; and the facility of their carriage has permitted many distant and hilly districts to be improved at a comparatively small cost. Little difference is observed in the kind of bones used; but those boiled or fermented are generally preferred. Their effect as a manure is said to depend on the phosphate of lime contained in them, and in their power of absorbing and retaining moisture. Before being used they are crushed into different sizes called *drill bones*, *medium*, and *dust*; for which purpose, mills have been erected in many parts of the country. Bone manure was first introduced in 1800, but it was not extensively used until within the last ten years. The increasing demand for this material has led to its importation from foreign, and even distant countries; of late, considerable difficulty has been experienced in meeting the demand. The price in 1840 was, bone dust medium 22s. to 23s., and drill about 21s. per imperial quarter. These high prices have led to a system of adulteration which is very generally practised in mixing this manure with saw-dust, slaked lime, and numerous other ingredients.

BONUS (Lat.), *good*, a term commonly used to express an extra dividend or allowance to the shareholders of a joint-stock company, out of its accumulated profits.

BOOK, a name applicable in a general sense to almost every literary composition, but usually confined to such compositions as are large enough to form a volume. Printed volumes are distinguished according to the number of leaves produced from one sheet of paper. *Folio* is the largest size, of which 2 leaves or 4 pages make a sheet; *Quarto* or 4to, 4 leaves or 8 pages; *Octavo* or 8vo, 8 leaves or 16 pages; *Duodecimo* or 12mo, 12 leaves or 24 pages; *Octodecimo* or 18mo, 18 leaves or 36 pages, and so on. These again differ according to the size and form of the sheet. Thus there are royal, demy, post, and crown octavos; and the same with the others.

The modern book-trade dates from the discovery of the art of printing with movable types by John Gutenberg of Mayence, in 1441. In 1471, the art was

brought to London by William Caxton, a mercer, and from that time until 1600, the activity of the press was considerable ; the works chiefly issued being Bibles and works on divinity, translations of the classics, versions of French and Italian romances, and old chronicles. Few, however, but "clerks and noble gentlemen" could then use these works, as their expense and the imperfect state of education placed them beyond the reach of the people in general. In 1505, 20 pence, a sum then equal to a labourer's weekly wages, were paid for a "Primer" and a "Psalter ;" and in 1516, "Fitzherbert's Abridgment," a folio law-book, was sold for 40 shillings, a sum which at that time would have bought 3 oxen. The edition of a book, during this period, averaged about 200 copies. The stormy period from 1600 to the revolution in 1688, was, although the age of Shakspeare, Bacon, and Milton, upon the whole less favourable to the diffusion of knowledge ; and the number of books issued, unconnected with religious or political controversy, was very small. Only two editions, or about 1000 copies, of Shakspeare, were printed betwixt 1623 and 1664. From 1666 to 1680, the works printed were, 947 divinity, 420 law, 153 physic, 397 schoolbooks, and 253 geography, including maps, or in all, only 3550, of which, about one-half were single sermons and tracts, and a considerable proportion reprints. The period from 1688 to the accession of George III. in 1760, was much more celebrated. Newspapers were established on a regular footing, both in London and the provinces : in 1731, appeared the "Gentleman's Magazine," the first of that class of periodicals produced in England, and in 1749, the first review, "The Monthly ;" and other similar works soon followed. Publishers attained higher influence in society, and the trade of books went much more than formerly into regular commercial channels. The number of new ones printed during this period was, however, not large, as the publishers appear to have aimed less at novelty than at selling large impressions of a few standard works. Betwixt 1700 and 1756, excluding pamphlets and tracts, only 5280 new books appeared ; or, on an average, 93 annually. The period from 1760 to 1800 is distinguished less for originality than for the increased diffusion of literature. Periodical works were multiplied, and the principle of "number books" was then first developed. Of the latter, one of the most successful was Smollett's History of England, which sold to the extent of 20,000 copies. Towards the end of the century, the average number of new books published annually was about 370, exclusive of pamphlets. From 1800 to 1827, the average annual number of new books, exclusive of pamphlets, was about 588 ; showing a very considerable increase relatively to the preceding period. Notwithstanding this increase, little had been done for many years in economizing the mode of conveying knowledge ; indeed, as compared with the preceding centuries, the price of books had advanced, and the reading portion of the middle classes had little or no opportunity of gratifying their taste, except through the medium of circulating libraries, and reading clubs. A larger class of readers, however, had now arisen, for whom a new species of literature was to be provided. With the view of meeting the wants of this class, "Constable's Miscellany" appeared in 1827 ; soon afterwards, the Society for the Diffusion of Useful Knowledge was instituted, for the purpose of conveying sterling information in a cheap form, and a number of enterprising publishers subsequently entered upon the same field ; the attention of all being likewise directed to the issue of cheap editions of the great writers. The success which in general attended these operations has gradually revolutionized the book trade. The portly folios and quartos of former times have given place to octavos and duodecimos ; and publishers now find it their interest, in bringing out works even for the wealthiest, to place them at the same time within reach of the generality of the middle class ; reimbursing themselves for the lower price charged by the larger impression sold. This change has been effected without producing, as many anticipated, any diminution of new works. On the contrary, there has been a considerable increase ; and the truth of the observation, "that the more people read, the more they will read," has been confirmed. The number of *new* works, excluding pamphlets and reprints, was, in 1828, 842 ; in 1829, 1064 ; in 1830, 1142 ; in 1831, 1105 ; in 1832, 1152 ; in 1833, 1180 ; in 1834, 1220 ; in 1835, 1382 ; and in 1836, 1332 ; the last embracing 1573 volumes.

The principal localities of the book trade are London, Edinburgh, Dublin, Oxford, Cambridge, and Glasgow. Of these, by far the most extensive is London, which may be regarded as the emporium of the whole kingdom, as the provincial publishers have all agents there, to whom a large proportion of their works are consigned as soon as printed. The capital is in particular distinguished for periodical literature, which in point of extent is unparalleled in the world. According to a late statement, the periodicals issued in December 1837 were as follows :—

Weekly, religious, 6 ; literary criticism, 2 ; musical criticism, 1 ; medical, 4 ; scientific, 2 ; advocacy of particular opinions, 2 ; miscellanies, 18 ; tales, 5 ; attempts at fun,—mostly trash, 7 ; sporting slang, 1 ; total, 48 ; of which, 21 were published at 1d., 8 at 1½d. ; 7 at 2d., and the rest at higher prices, varying up to 8d. *Monthly*, including weeklies issued in parts, 236 ; whereof, general literature, 58 ; science, 48 ; religious, 46 ; histories of England, 4 ; works issuing in volumes, 17 ; fine arts, 20 ; fashions, 6 ; the remainder chiefly children's periodicals. *Quarterly*, 34. The aggregate circulation of the whole is unknown ; but the number of periodicals sold on the last day of each month (1837) was stated at 500,000, and their cost, £25,000 ; and the number of parcels despatched in the same day by the London booksellers to the country, 2000. The last would be much greater, were it not that the majority of the Scotch and Irish provincial booksellers transmit their London orders through the medium of their agents in Edinburgh and Dublin.

The declared value of printed books exported annually from the United Kingdom is nearly £150,000 ; of which about one-half is sent to India and the British colonies, one-fifth to the United States, and the remainder chiefly to France, Germany, Holland, and Italy. The amount of duty annually paid on foreign books imported is about £8000.

The chief seats of the foreign book trade are Paris, and Leipzig in Saxony, where all the German publishers have agents, and where the trade is likewise facilitated by two great book-fairs which are held annually, at Easter and Michaelmas. These fairs are frequented not only by all the booksellers of Germany, but by many of those of the neighbouring countries.

Books first composed, or written, or printed in the United Kingdom, and printed or reprinted in any other country, are prohibited from being imported for sale, except books not reprinted in the United Kingdom within twenty years, or being parts of collections, the greater parts of which had been composed or written abroad (3 & 4 Wm. IV., c. 50, § 58).

Books first composed, or written, or printed and published in the United Kingdom, and reprinted in any other country or place, may not be entered to be warehoused (*Ibid.* § 59).

The importation for private use of English books reprinted abroad is limited to a single copy for each party, accompanied by his luggage. (*Treasury Order*, June 29, 1830.) [COPYRIGHT.]

BOOK-DEBT, an expression employed to designate an obligation for the price of goods sold and delivered, when it is supported by no better evidence than the books of the seller. An entry made by a tradesman himself is not evidence in his own favour. If his shopman be examined as a witness, however, he may employ the entry as a memorandum to refresh his memory. Entries by a clerk or shopman are not in all cases evidence, but they may be admitted in certain circumstances. By a rule not easily to be accounted for, after the person who made the entry is dead, and when it is consequently difficult to get any explanation of the circumstances connected with it, it is better evidence than if he were alive, and capable of being examined on the subject. Mr Phillips, on this subject, says, "the entry in the tradesman's book ought to have been made by the shopman ; or, if not actually written by him, should at least appear to have been observed by him, soon after it was made, so as to enable him to speak to its correctness, and that the entry may be tantamount to one made by the shopman himself. If the shopman is living, he ought to be produced as a witness, that he may explain the circumstances and dealings on which the entry was founded. When he is examined, he may use the entry as a memorandum ; and the other party charged with the debt will then have an opportunity of examining into its correctness. If the person who made the entry was employed as shopman or clerk, to deliver goods, &c., and he is since dead, an entry made by him will be evidence, under certain restrictions. But proof of the handwriting of the clerk, and that he is gone abroad, and is not likely to return, has been held not to be sufficient to make such an *ex parte* memorandum admissible in evidence" (*Law of Evidence*, 7th edit. 264). A merchant's books will, in the general case, be very effectual evidence against himself.

IN ENGLAND, by statute 7 James I., c. 12, it is provided that no tradesman, or handicraftsman, shall be allowed to give his books in evidence of goods delivered or work done by him, after the expiration of a year from the date of the entry, unless he have in the mean time obtained a bill or obligation for the debt, or have brought his action within the year. The act does not apply to transactions between merchant and merchant. It proceeds on the preamble, that tradesmen were in the practice of producing accounts against individuals and their representatives, long after the transactions on which they were founded had been forgotten, and it is understood to have been passed in reference to a general belief, that after the expiry of a year, tradesmen's books became evidence, when they were not so before.

IN SCOTLAND, by statute 1679, c. 83, all book-debts, or accounts, by tradesmen and

others, prescribe in three years. The period runs from the last entry in the account, so that if there be a new entry at any time within three years after an immediately previous one, the whole account is saved from prescription till three years after that entry. The prescription does not dissolve the obligation to pay—it merely limits the proof to two descriptions of evidence—a writing by the debtor, and an appeal to his oath. If, in the latter, the debtor admit the constitution of the obligation, he will not be relieved unless he specifically swear to its payment.

BOOK-KEEPING is the art of recording financial facts in a lucid and systematic manner. The only method of book-keeping founded upon general principles is the *Italian*, or, as it is more commonly called, the *Double-Entry* system, from its being based on the principle, that every transaction in business is virtually a transfer between two accounts, and so must be entered to the debit of the one, and the credit of the other. “Of the efficiency of this system, the trading world in its infinite variety of commerce and concerns gives unanimous evidence. Into every well regulated manufactory,—into every extensive mercantile establishment in every part of the civilized world,—it has gradually, but peremptorily, forced its way; and in this country is finding its way into mercantile establishments of humbler grades. The revenues of no government have been safely administered,—the accounts of no government have been intelligibly kept,—the business of no government has been promptly and satisfactorily despatched,—until the commercial system has been introduced with its order and uniformity into the different departments” (*Parliamentary Report on Excise Accounts*, 1834).

In the present article it is proposed to give—I. An outline of the ordinary procedure in recording the transactions of a general merchant;—II. Practical directions for stating the different accounts;—and III. A short account of a modified system adopted for retail business; premising the following general rules:—

Record nothing but facts.

Record facts under their date of occurrence.

Record them under their proper heads of account.

Facts of the same character are to be represented by addition; facts of different characters by opposition; but the result of two different species of facts is never to be represented by their difference.

I. Outline of the ordinary procedure in recording the transactions of a general merchant.

The double-entry system, according to the practice of most commercial establishments, comprehends three different kinds or classes of books:—1st, *Primary Records*, or *Day-books*, for each distinct branch of business—as Cash, Bills, Invoices Inward, Invoices Outward, Sales on Commission, and so on, according to the nature of the trade, and in each of which the transactions are stated circumstantially as they occur. 2d, *The Journal*, in which all the entries in the primary records are collected and digested monthly in a concise technical form, suited for their being readily transferred into the ledger. 3d, *The Ledger*, in which the results shown in the journal are arranged under their appropriate heads; and the periodical abstract of which, termed a *Balance Sheet*, exhibits in a succinct form the state of the merchant's affairs.

PRIMARY RECORDS.

CASH BOOK.—This, though the most important of all, is in its form the most simple. On the left-hand page, or Dr. side, are entered in chronological order all the sums received; and on the right-hand, or Cr. side, in the same order, all the payments. As no money can be paid that has not been first received; it follows that the Dr. side of a cash-book can never amount to less than the Cr. side; the excess of the former above the latter, if any, must, when correctly kept, also correspond with the money in hand.

BILL BOOKS.—Bills are either *receivable* or *payable*; the former being one of the channels through which debts due to the concern are collected, the latter one of the channels through which debts due by the concern are discharged. Each description has generally a book allotted to itself, both of which should contain spaces for all particulars inherent and relative to the bill.

The *Bills Receivable* book should contain appropriate spaces for the following particulars: No.—When received—On whose account—Cr. folio—From whom received—Drawer—Drawee—To order of—Where payable—Date—Term—When due—Sum—When and to whom paid away—Dr. folio.

The *Bills Payable* book should contain spaces under the following heads: No.—When accepted—On whose account—Dr. folio—Holder—Drawer—To order of—

payable—Date of Bill—Term—When due—Sum—When and to whom paid
 No.

books, it will be observed, are furnished with columns for running num-
 which numbers are also written on the face of each bill respectively, and
 means it can be readily referred to and identified.

ICE BOOK INWARDS, or BOUGHT BOOK, is a receptacle for bills of parcels, or
 is of goods purchased.—In some houses these accounts are copied at length
 order in which they are received ; while others form this book of blue, or
 on blank paper, into which the original accounts are pasted.

ICE BOOK OUTWARDS is appropriated for an account of goods sold on credit
 is, or exported abroad. This book being of great importance, should be kept
 be utmost precision, and carefully verified before the sums are transferred to
 urnal and ledger. In extensive concerns, several books of this kind may be
 t the same time, the titles of which can be varied according to the nature of
 siness. Thus one may be appropriated for *Town department*, another for
 ry department, and a third for *Foreign department*.

as BOOK, or FACTORY BOOK, is generally appropriated to accounts of con-
 ents. Each account commonly occupies two pages, a title being placed over
 stating the names of the goods, ship, and consigner. The left-hand page
 ns an account of the charges incurred, including brokerage, and commission :
 ght-hand page contains an account of the quantity, price, and amount of the
 sold, with the buyer's name, and the time of payment. The difference be-
 this amount, and the charges on the other side, is the net proceeds for which
 nsigner receives credit.

er books may be kept according to the nature of the business ; as a Deben-
 Book, Insurance Book, &c. ; and the common practice, as already noticed,
 et apart books for each distinct department of business. In some houses,
 ver, a Waste Book, or Petty Journal, is appropriated for such occasional trans-
 as do not fall under any of the preceding heads.

se exhaust the authorities from which it is usual to compile the journal.
 are, however, a variety of other books, kept in every counting-house, which
 t commonly form part of the materials for the journal, such as the Ware-
 Book, Letter Book, Account-Current Book, Account-Sales Book, Petty
 Book, and Order Book. The Warehouse Book, kept in a similar way to the
 ry Book, contains accounts for each parcel of goods belonging to the mer-
 's own stock, detailing the quantities received, their disposal, the charges
 red, and the quantities on hand. The use of the others is sufficiently pointed
 r their names.

JOURNAL.

journal, as already stated, is a monthly synopsis of all the transactions
 ted from the primary records, and digested under their appropriate heads of
 r and Creditor. It usually contains,—1st, A column for the day of the month ;
 column for the folio of the ledger where each account is posted ; 3d, A space
 rative ; and, 4th, Two money columns. The rules for distinguishing Dr.
 r. are to be inferred from the nature of the transactions and the accounts in
 dger. In personal accounts nothing is plainer than who are Dr. and Cr. ;
 nal business this is not only understood but felt. The following are the most
 al rules that can be given.

atever is *Received*, or the *Receiver* is *Debtor*.

atever is *Delivered*, or the *Deliverer* is *Creditor*.

journal begins with the inventory of stock. Thus if the property of a mer-
 consist of Cash, £300 ; Bill No. 57, on P. Hill, due April 3, £500 ; Goods,
 ; Debt due by Peter Gray, £200 ; Ship Minerva, £400 : and his obligations,
 o. 80, to P. Yates, due Jan. 6, £700 ; Debt due to Moses Ker, £600. The
 l entries will be in this form :—

SUNDRIES DR. TO STOCK.

Cash,	£300
Bills Receivable—No. 57, P. Hill, due April 3,	500
Goods,	900
Peter Gray,	200
Ship Minerva,	400
	<hr/>
	£2300
	<hr/>

STOCK DR. TO SUNDRIES.

To <i>Bills Payable</i> —No. 80, P. Yates, due Jan. 6,	£700
To <i>Moses Ker</i> ,	600
	<hr/>
	£1300
	<hr/>

The primary Records are journalized at the end of each month.

In journalizing the CASH BOOK, state

<i>Cash</i> Dr. to <i>Sundries</i>	For all money received.
<i>Sundries</i> Drs. to <i>Cash</i>	For all money paid.

Specifying particulars, and classing items of the same kind together.

In journalizing the BILL BOOKS,

<i>Bills Receivable</i> Dr. to <i>Sundries</i>	For all bills received.
<i>Sundries</i> Drs. to <i>Bills Payable</i>	For all bills accepted.

Setting forth names, numbers, and other necessary particulars.

In journalizing the INVOICE BOOK INWARDS,

<i>Goods Account</i> , Dr. to A B (the seller)	For amount of goods purchased.
--	--------------------------------

In journalizing the INVOICE BOOK OUTWARDS,

C D (the Person on whose account the invoice is sent) Dr. to <i>Sundries</i> .	
To <i>Goods</i>	For amount of goods.
To <i>Charges</i>	For Shipping and other charges.
To <i>Commission</i>	For the Factor's Commission.
To <i>Insurance</i>	For Premium of Insurance.

The case here supposed is that of a consignment to order. When the transaction is an Adventure Outward, or direct sale, no Commission is charged.

In journalizing the SALES BOOK or FACTORY BOOK,

Sundries Drs. to *Sales on Commission*.

E F (the Purchaser)	For Sales on Credit.
<i>Cash</i>	For ready money Sales.

Sales on Commission, Dr. to *Sundries*.

To <i>Charges</i>	For charges at landing, &c.
To <i>Interest</i>	For interest (if charged on advances).
To <i>Commission</i>	For the Factor's Commission.
To G H (the Consigner)	For Net Proceeds.

The journal for the month is then closed by a similar arrangement of the transactions contained in any other Record which the nature of the business may render necessary.

LEDGER.

This book is divided into distinct accounts, corresponding to the different branches of the business, into which are *posted* monthly the results brought out in the journal. Each account is introduced by an appropriate title ; and articles of opposite kinds which belong to the same account, are placed on opposite pages. The left hand page is called the *Debtor*, or *Dr.* side of the account ; and the right hand page the *Creditor*, or *Cr.* side. The difference between the sums of the *Dr.* and *Cr.* sides is called the *Balance*.

The accounts in the ledger may be divided into two great branches. The first forms the accounts of the whole property or capital, technically called *Stock*, and the second embraces the accounts of the component parts of property. Under the general head of *Stock Accounts* are comprehended *Profit and Loss* account, and its ramifications, *Commission*, *Interest*, and *Charges* ; the object of these accounts being to collect together the individual augmentations and diminutions of capital, and to transfer the results in one general entry to *Stock* ; and also *Private Account*, its use being to record all sums put into the business, or withdrawn, so as to keep them distinct from *Profit and Loss*, and to transfer the result in the same manner in one entry to *Stock*. The accounts of the component parts of property will depend upon

ure of the business ; but in a general point of view, the whole may be con-
y arranged as follows :—

1. WHOLE PROPERTY.

	<i>Branches.</i>	<i>Ramifications.</i>
Stock.	{ Profit and Loss.	{ Commission.
		{ Interest.
	{ Private Account.	{ Charges.

2. COMPONENT PARTS OF PROPERTY.

Accounts of Money, Real Property, &c. viz. Cash, Bills Payable, Bills Receivable, Goods, Ships, Houses, Public Stock, &c.

Personal Accounts, viz. Banker, Ordinary Debtors and Creditors.

the fundamental law of double entry, every debit must have a correspond-
equivalent credit, and *vice versa*, it follows that the two sides of the ledger
correctly posted, be constantly in a state of equilibrium : It follows like-
an the axiom that “ the whole is equal to the sum of all its parts,” that the
of the stock account must equal the aggregate balance of all the other
s. Hence arises the proof of double entry, which consists in abstracting the
s of all the accounts in the ledger, and verifying their accuracy by ascer-
how far the above requisites have been fulfilled. This operation, called
balancing the books, is usually performed at the close of the year ; at which period,
the gain or loss during the year is indicated by the credit or debit balance
into “ Stock Account ” from “ Profit and Loss,” after transferring to the latter
ches, Commission, Interest, &c., and the differences betwixt the debit and credit
the goods and property accounts, after crediting the balances of merchandise
property on hand at their market value. The whole debit and credit balances
en arranged in opposition to each other, will give a condensed view of the
nt’s assets and liabilities, and of his capital stock in the following form :—

BALANCE ACCOUNT. Cr.

hand.....	£56	Bills Payable	£1,500
receivable do.....	463	Debts Payable.....	2,500
do.....	3,500		
.....	1,000		£4,000
.....	800	Stock or net capital.....	6,000
the Public Funds.....	400		
.....	900		
receivable	2,881		
	£10,000		£10,000

Practical Directions for stating the different Accounts, including Observa-
tion Joint Accounts.

1.—This is in truth the account of the merchant himself, or the concern ;
commencing a new set of books, is debited with all the liabilities, and cre-
dited with all the assets. Thus the sums given above under the head “ Journal,”
entered in the ledger in this form :—

	Stock.		Cr.
ries	£1300	By Sundries	£2300

ess of the credit above the debit side, £1000, being the net capital or stock
. If at next balance it shall be found that a profit of £300 has been realized,
200 has been withdrawn for private expenses, *Stock* will fall to be credited
‘ Profit and Loss’ £300,” and debited “ To ‘ A B’s Private account,’ £200.”
which the balance at Cr. of ‘ *Stock*,’ or A B’s net capital, will be £1100.
r AND Loss.—During the currency of the year, this account should be de-
bitly for actual losses, and credited for actual gains ; leaving the balances
ission, Interest, Charges Account, &c. to be transferred at the time fixed
icing. Some houses amalgamate the whole of these accounts into one
‘ Profit and Loss account ; but this is objectionable, especially in large con-
cerns it is of importance to preserve all the channels of gain and loss as
as possible. A better plan is to open a separate account for Profit, and
or Loss.

The balance arising on Profit and Loss account is transferred "To Stock," or "By Stock," according as the result is gain or loss.

COMMISSION ACCOUNT is credited for all commissions received for our trouble in transacting business for others. There are seldom any entries to the debit, as the charges for commission made by our agents properly belong to the Goods Account to which they have reference. It is closed by transferring the balance to "Profit and Loss."

INTEREST ACCOUNT contains on the Dr. side all sums paid or incurred for interest or discount ; and on the Cr. all sums received or become due for the same. The difference, at balancing, is transferred to "Profit and Loss."

CHARGES ACCOUNT contains on the Dr. side all general expenses paid or incurred in the business, as rents, taxes, salaries, postages, and incidents. If any of these should be afterwards charged to some other account, the sums so charged are entered to the Cr. The balance is transferred to "Profit and Loss."

In some houses, separate accounts are kept for Export Charges, Charges on Sales, on Commission, &c., such accounts being dissected periodically, and credited by the different parties, or Adventures, for which the charges were incurred.

PRIVATE ACCOUNT contains on the Dr., money, or any thing else withdrawn from the concern for private use. It seldom contains any thing on the Cr. side. The balance is transferred to "Stock." Dr Hamilton and other writers carry private or house expenses to "Profit and Loss ;"—but this is improper, as the true profits of business may be £1000 a-year, while the expenditure being £1500, a false loss would be exhibited.

CASH.—Some houses post the ledger directly from the Cash Book, without any intermediate entry in the Journal beyond "Cash Dr. to Sundries" for the monthly amount of receipts ; and "Sundries Dr. to Cash" for the monthly amount of payments ; but the more general method in large concerns is that described above under the head "Journal." By both plans, the cash account in the Ledger is usually comprised in twelve lines on each side yearly.

The mode of stating the cash details is simple. When goods are sold for ready money, Dr. "Cash," Cr. "Goods," or account to which the goods belong. When cash is received for goods formerly sold on credit, Dr. "Cash," Cr. the purchaser. When goods are bought for ready money, Cr. "Cash," Dr. "Goods," or account to which the goods belong. When cash is paid for goods purchased on credit, Cr. "Cash," Dr. the seller. When money is received of one person for the use of another, or for his own use, Dr. "Cash," Cr. the person for whose use it is received. When money is paid to one person for the use of another, or for his own use, Dr. the person for whose use it is paid, Cr. "Cash." When money is lent, Cr. "Cash," Dr. the borrower. When money is borrowed, Dr. "Cash," Cr. the lender. When a bill is paid, Cr. "Cash," Dr. "Bills Payable." When a bill is discounted, Dr. "Cash," and Cr. "Bills Receivable" for the total amount of the bill ; and Cr. "Cash," and Dr. "Interest," for the discount.

BILLS PAYABLE ACCOUNT is credited with all bills accepted, and debited with those paid ; the balance shows the amount of bills unpaid.

BILLS RECEIVABLE.—This account is debited with all bills received, and credited with those paid, discounted, or otherwise disposed of ; the balance shows the bills remaining in hand.

In the *Renewal of Bills*,—1st, If the bill be in your own hands, make A B (the acceptor) Dr. to Sundries; viz. To "Bills Receivable," for the sum of the old bill ; To "Interest," for interest for the time the bill is renewed added to the new bill ; and then "Bills Receivable" Dr. to A B for the new bill. 2d, If the bill be discounted, or paid away, make A B Dr. to "Cash" when you pay his bill,—and A B Dr. to "Interest" for interest : then "Bills Receivable" Dr. to A B for the new bill. If the new bill, however, be drawn for the same sum as the former, and the interest paid in cash, it is sufficient to enter "Cash" Dr. to "Interest" for the interest, without bringing it to A B's account.

In the *Protesting of Bills*,—1st, If the bill be in your own hands, make A B (on whose account it was received) Dr. to "Bills Receivable" for the bill, and A B Dr. to "Cash" or "Charges," for expenses of protest ; 2d, If the bill be discounted or paid away, A B Dr. to "Cash," paid his bill with expenses.

Accommodation Bills.—When you receive another person's acceptance, or grant your own note and receive the proceeds, in either case merely for your own accommodation, enter "Bills Receivable" Dr. to "Bills Payable" for the bill (as you will have to provide for it when it falls due) ; and when discounted, "Cash" Dr. to "Bills Receivable," and when paid, "Bills Payable" Dr. to "Cash." When you

grant your bill to another, merely for his accommodation, it is sufficient to note the particulars in a "Memorandum Book," or "Register Bill Book," and take an obligation from him that he is to provide for it when it becomes due. If he then be unable to pay the bill, enter A B Dr. to "Cash." Where, however, accommodation bill transactions betwixt two parties are numerous, the best way is to open a separate account for them.

Merchants whose bill transactions are numerous, keep a *Register Bill Book*, in which all bills they receive, or become bound to pay, are entered in the order in which they fall due, to enable them to regulate their payments without embarrassment.

GOODS ACCOUNT commences on the Dr. side, with the balance of goods on hand. Goods bought are entered on the same side ; and goods sold on the Cr. Charges laid out on goods are entered on the Dr. side, as also discounts allowed on goods sold ; and on the Cr. side discounts received on goods purchased, as well as any other incidental advantage which arises from them. On closing the account, Cr. By "Balance" for value of goods on hand. If the Cr. side is then found to exceed the Dr. the account is to be debited, To "Profit and Loss" for gain ; and, if the contrary, it is to be credited By "Profit and Loss" for loss. In some houses, separate accounts are opened in the Ledger for each kind of goods ; but perhaps the more general practice is to open only one general account, and leave the gain or loss upon the different parcels to be ascertained from the Warehouse Book.

ACCOUNTS OF SHIPS, HOUSES, &c. are debited with the cost and outlays, and credited with freights, rents, and other receipts. The difference is transferred to "Profit and Loss," after crediting them "By Balance" for their value at the time of closing.

PERSONAL ACCOUNTS are debited to Goods, Cash, Charges for Commission, and for every thing we give out ; and credited for what we receive either in Goods, Cash, or Charges, &c. Where the transactions with a party are numerous, and of different kinds, several accounts may be opened ; thus with A B you may open his "General Account," his "Accepting Account," his "Account of Consignments," &c., the balance of all, or any of these, being transferred at certain periods to his "Account Current."

INSURANCE ACCOUNT is stated in various ways, according to circumstances. In the books of a merchant, or person insured, it is debited to the Broker or Insurance Company, for the amount of premium and policy, and credited by the Adventure or person for whose account it is effected ; the Broker being debited for Returns, Averages, or Losses, to the accounts that were formerly charged with the premiums. Where, however, the merchant acts as his own broker, it will be convenient to open a separate set of Insurance books for the accounts of the different underwriters, &c., and to reserve his general ledger for an Insurance Account, and an account for himself as "Broker," both of which will be stated, as in the former case.

In the books of an Underwriter, "Insurance Account" is credited by the broker or party insured for the premium, &c. ; and debited to the same accounts for Returns, Averages, or Losses ; the difference being transferred at balancing to "Profit and Loss." At balancing, care must be taken to transfer the premiums on current risks to a "Suspense" or "Guarantee Account."

DEBENTURE ACCOUNT is debited To "Goods" for the drawbacks to be received on goods exported from our own stock, and credited by "Cash" when we receive the same ; the balance shows the debentures outstanding.

GOODS RECEIVED ON COMMISSION.—Separate accounts are sometimes opened in the ledger for each consignment ; but as this is done in the Sales or Factory Book, it is usual to confine the ledger accounts to two general ones, namely, "Sales on Commission," and "Charges on Sales on Commission." The first is credited by the accounts of the different purchasers for the gross sales ; and debited (after each consignment is sold) to "Charges on Sales on Commission" for the amount of charges, to "Commission" for your commission, and to the consigner for the net proceeds ; and the balance will consist of the gross proceeds of goods not yet accounted for by you. "Charges on Goods on Commission" is debited to "Cash," &c. for all charges, and credited as already stated : the balance will show the amount of advances remaining to be accounted for to you.

ADVENTURES.—In *Adventures Outward*, two accounts are generally opened with the foreign agent, "A B Account of Consignments" is debited with the cost of the goods, Insurance, and Charges ; and credited by "A B Account-Current" for net proceeds ; the difference being carried to Profit and Loss. The account-current is credited by remittances. In *Adventures Homeward*, the foreign agent's account

and it is not fixed that the capital shall remain permanent. In all cases, interest is to be charged on the partners' accounts, in order to equalize their advances.

A preferable mode, however, is to state the accounts in the General Ledger precisely as in the case of a single proprietor, and to adjust the partnership interests in a private Partnership Ledger as follows :—

Dr.	Joint Capital.	Cr.	Dr.	A.	Cr.
To Sundries	£900	By A. withdrawn	£210	To J. C. withdr.	£210
To Interest	37	By B do.	105	To Balance	615
To P. & L.	300	By balance	922		
	£1237		£1237		
				£825	£825

Dr.	Interest.	Cr.	Dr.	B.	Cr.
To Sundries	£37	By Joint C.	£37	To J. C. withdr.	£105
				To Balance	307
				£412	£412

Dr.	Profit and Loss.	Cr.			
To Sundries	£300	By Joint C.	£300		

Joint Capital is debited at the outset to each of the partners for his capital ; at balancing it is debited to "Interest" for the interest arising on the capital ; to "Profit and Loss" for gain ; and credited by each of the partners' accounts for the sums withdrawn. It is thus just the Stock Account of the General Ledger reversed.

Interest is credited by "Joint Capital" for the interest arising on it ; and debited to the partners for their respective shares.

Profit and Loss is credited by "Joint Capital" for net gain ; and debited to the partners' accounts for their respective shares.

Partners' Accounts are credited by "Joint Capital," "Interest," and "Profit and Loss," for their respective shares of capital, interest, and gain, and debited to "Joint Capital" for the sums withdrawn.

III. Outline of a Modified System adapted for Retail Business.

It is a common prejudice that the retailer, from the minuteness of his sales, is unable to keep his accounts on the same systematic principles as the merchant. The difficulty, however, applies solely to the quantities of goods, and in no respect to the money accounts which, in all businesses, are composed of expenditure and returns, receipts and payments. These particulars the retailer can ascertain as easily as the merchant, and therefore he may with equal facility systematize his accounts. In the simple form given below, the only books employed are a Cash Book, a Day Book, and a Ledger into which the two former are posted directly without the intervention of a Journal.

The *Cash Book* differs from ordinary books of this kind in having an inner column on each side titled "Store." In the inner column on the Dr. side are entered the cash drawn for ready-money sales and discounts received ; and in the credit inner column, ready-money purchases, discounts allowed or paid, and all charges of a general nature. The amount of each of the inner columns is transferred monthly to the outer, and then posted to "Store Account" in the Ledger.

In the annexed form the ready-money sales are entered weekly, but in practice they should be entered daily unless a petty cash book is kept for that purpose ; in which case they may be transferred when convenient.

The *Day Book* forms a chronological record of all the other transactions : the purchases on credit are extended into the column titled "Store Dr. ;" the sales on credit to that titled "Store Cr.," and any other transactions which may occur are expressed in the journal form, and entered in an inner column. The two outer columns are summed monthly, and their amounts posted to "Store Account," as before.

The *Ledger* is extremely simple, and will be readily understood on inspection. The *Store* account combines a goods and charges account ; and at closing, the value of the goods on hand, as ascertained by inventory, is stated to the credit as a balance, and the excess of the credit above the debit side, being the profit realized, is transferred to *Stock* account.

The period embraced by the transactions is one month, but the procedure is the

same throughout the year. The operation of balancing is here for illustration performed at the end of the month, when the closing stock entries are stated in the journal form at the end of the Day Book.

Dr.	CASH BOOK.				Cr.
		Store.			Store.
Feb. 1.	To Stock - - - - £	500	Feb. 1.	By Bank, lodged - - £	200
.. 7.	To Store, cash sales -	15	.. 2.	By Store, 200 lbs. tea, at 4s.	40
.. 8.	To Store, disc't. from J. Smith	10	.. 6.	By J. Smith, paid him -	200
.. 14.	To Store, cash sales -	16	.. 13.	By A B, family expenses	1
	To J. Bell in full -	12	.. 14.	By Store, discount to J. Bell	1
.. 21.	To Store, cash sales -	12	.. 25.	By Store, disc't. on F. B's bill	1
.. 25.	To Bills Receivable, dis- counted P. Brown's, due June 18 - - - -	80	.. 28.	By Store, incidents, &c. -	12
.. 28.	To Store, cash sales -	14	.. ..	By A B, family expenses	4
		67		By Balance - - -	54
		639			639

DAY BOOK.		Dr.	Cr.
Feb. 2.	To John Smith, for 1000 lbs. tea, at 4s.		£ 400
.. 5.	By J. Bell, 48 lbs. tea, at 8s.		384
.. 10.	To J. Smith, 100 cwt. sugar, at 50s.		500
.. 15.	By J. Bell, 20 cwt. sugar, at 60s.		1200
.. 20.	Bills Receivable, Dr. to J. Bell Received his bill at 4 months, due June 18		£ 200
.. 26.	By J. Bell for 4 lbs. tea, at 5s.		20
	40 lbs. sugar, at 6d.		20
			2
	Store Account, Dr. for purchases on credit this month		400
	Store Account, Cr. for sales on credit this month		74
	Stock Dr. to A B Private Account, balance of latter transferred		£ 11
	Store Account Dr. to Stock, gain on former transferred		£ 11

Dr.	LEDGER.		Cr.	
<hr/>				
	——— Stock. ———			
Feb. 28.	To A B for cash withdrawn	£11	Feb. 1. By Cash for capital	£200
.. ..	To Balance	810	.. 28. By Store for gain	2
		<u>£821</u>		<u>£202</u>
	——— Store. ———			
Feb. 28.	To Cash	£34	Feb. 28. By Cash for sales, &c.	£74
.. ..	To Sundries, per Day B.	450	.. .. By Sundries, sales per Day B.	74
.. ..	To Stock for gain	21	.. .. By Balance, goods on hand	204
		<u>£525</u>		<u>£352</u>
	——— Bank. ———			
Feb. 1.	To Cash lodged	£200	Feb. 28. By Balance	£200
		<u>£200</u>		<u>£200</u>
	——— Bills Receivable. ———			
Feb. 20.	To J. Bell, due June 18	£60	Feb. 28. By Cash, disc't J. Bell's bill	£1
		<u>£60</u>		<u>£1</u>
	——— A B Private Account. ———			
Feb. 13.	To Cash, family expenses	£5	Feb. 28. By Stock transferred	£11
.. 28.	To ditto	6		
		<u>£11</u>		<u>£11</u>

Dr.	John Smith.		Cr.
Feb. 2. To Cash, discount £10	-	£200	Feb. 2. By Store, 1000 lbs. tea, at 4s... £200
.. 28. To Balance	-	250	.. 10. By Store, 100 cwt. sug., at 50s. 250
Dr.	J. Bell.		Cr.
Feb. 5. To Store, 48 lbs. tea, at 5s.	-	£12	Feb. 14. By Cash, discount £1
.. 15. To Store, 20 cwt. sugar, at 60s.	-	60	.. 20. By Bills Receivable, due June 11
.. 28. To Store, tea and sugar	-	2	.. 28. By Balance
		£74	£74
Dr.	Balance. (A B's Estate, Feb. 28.)		Cr.
To Cash on hand	-	£89	By J. Smith, due to him
To Store, goods on hand	-	384	By Stock
To Bank	-	285	
To J. Bell, due by him	-	2	
		£760	£760

If the concern is a partnership, the accounts may be kept precisely as above, and the interests of the partners adjusted in a private ledger, according to the form given in last section. In this ledger should also be engrossed the Inventory and Valuation of Stock, and the Balance Account.

BORACIC ACID is obtained artificially by the action of sulphuric acid upon borax; and in a natural state in the hot springs of Sasso, near Florence, and in the Lipari islands. It occurs in small brilliant colourless crystals, which have a soapy feel: it is inodorous, and possesses little taste. This acid is used in the manufacture of borax, as well as in chemical investigations. About 6000 cwts. are annually imported into this country.

BORAX, a salt procured in an impure state, called *tincal*, or *rough borax*, from a lake in Thibet, about fifteen days' journey from Teeshoo Lomboo, from whence early the whole European market is supplied by way of Calcutta. Tincal, as imported, is embedded in a kind of soapy matter; its crystals are soft and brittle, colourless, yellowish or greenish, sometimes nearly transparent, but more commonly opaque. When purified, it is called borax, or *borate of soda*, and occurs in rather large white semitransparent crystals, having a sweetish alkaline taste. When heated, it becomes a porous friable mass, called *calcined borax*. Borax is also prepared artificially in England and France from its ingredients, boracic acid and soda. This salt is employed in medicine, but is chiefly used as a flux in the arts. About 500 cwts. are annually brought to this country, nearly one-half of which is again re-exported.

BOTARGA, a substance similar to caviare, prepared on the coasts of the Mediterranean, from the spawn of a kind of mullet. It is very firm, of a deep reddish colour, and has two lobes about nine inches long. The best is made at Tunis.

BOTTLES (Du. *Bottels*. Fr. *Bouteilles*. Ger. *Bouteillen*. It. *Bottiglie*; *Fiaschi*. Por. *Botelhas*. Rus. *Bulülki*. Sp. *Botellas*.) [GLASS.]

BOTTOMRY is a contract by which money is borrowed on the joint security of a ship and its owners, repayable on the ship terminating her voyage successfully. It corresponds with *Respondentia*, which is a similar method of raising money on the cargo. [RESPONDENTIA.] It may be executed either by bill on the part of the borrower, or by a mutual bond, provided the conditions be clearly expressed. At home, the contract is entered into by the owners, or by the master as their agent. The master has full authority in a foreign country to bind the owners, and hypothecate the ship and freight by a bottomry-bond, in cases of necessity. "If it be made," says Mr Smith, "by the owners themselves in this country, before the commencement of the voyage, the lender has not the same convenient remedy by suit in the Admiralty against the ship, as he has in the case of hypothecation for necessities by the master in a foreign port, and if the contract refer to a British ship, of which it purports to be an assignment, compliance with the provisions of the Registry Act seems necessary to its validity" (*Mercantile L.* 348). In Scotland, according to Professor Bell, "to make the debt effectual, the proceedings are in the Admiralty [now the Court of Session] by an application for the sale of the ship, and payment of the bottomry debt, or a warrant against those who owe freight." The bond may be granted not only for money lent, but for repairs executed. The holder of the bond may take any amount of interest without being liable to the usury laws, a privilege of less consequence than it formerly was. [USURY.] But this privilege

continues with the sea risk—when that ceases, the interest, which continues to run, is restricted to the ordinary rate. Where the master hypothecates the ship for interest exceeding 5 per cent., the lender has a personal claim against the master, but none against the owner. Where there are several bonds of bottomry, and the value of the ship is insufficient to meet them all, the last, if absolutely necessary, is preferred, as having had the chief tendency to the preservation of the vessel. (*Abbott*, 117-131. *Marshall on Insurance*, 742-769. *Smith's Mercantile L.* 346-351. *Bell's Com.* i. 530-536.)

BOUGHT-AND-SOLD NOTE. [BROKER].

BOUNTY, a premium given by a government for the encouragement of a particular branch of industry. The granting of bounties formed, until lately, a prominent feature of the commercial policy of this country. A graduated allowance per yard was paid on all linen exported, in order to encourage the home manufacturer, and enable him to meet foreign competition; four shillings were granted on each barrel of cured gutted herrings; and £1 per ton on every vessel fitted out for the whale-fishery, in order to promote the fisheries and the rearing of seamen. Encouragements were given to other trades on similar principles; and in 1824 the total sum paid under this head amounted to £536,228. The impolicy of bounties had by this time, however, been rendered evident by the writings of Smith and Ricardo. It was now acknowledged that individual interest is of itself sufficient to prompt men to engage in all trades of a really advantageous nature;—that the production and exchange of commodities fall into the most profitable channels when left to themselves; and that as often as they are diverted from those channels by external interpositions of any sort, so often the industry of the country is made to employ itself less advantageously, and those engaged in it rendered comparatively indifferent to improvements. The principle of bounties was accordingly abandoned by government. The tonnage duty paid on whale ships ceased in 1824; and the bounties on herrings, linen, and other articles were repealed in 1830.

“We cannot give our workmen a monopoly in the foreign as we have done in the home market. We cannot force foreigners to buy their goods as we have done our own countrymen. The next best expedient it has been thought therefore is to *pay them for buying*. Bounties, it is allowed, ought to be given to those branches of trade only which cannot be carried on without them. But every branch of trade in which the merchant can sell his goods for a price which replaces to him, with the ordinary profits of stock, the whole capital employed in preparing and sending them to market, can be carried on without a bounty. Those trades only require bounties in which the merchant is obliged to sell his goods for a price which does not replace to him his capital, together with the ordinary profit; or in which he is obliged to sell them for less than it really costs him to send them to market. The bounty is given in order to make up this loss, and to encourage him to continue or perhaps to begin a trade of which the expense is supposed to be greater than the returns, of which every operation eats up a portion of the capital employed in it, and which is of such a nature that if all other trades resembled it there would soon be no capital left in the country. The trades which are carried on by means of bounties are the only ones which can be carried on between two nations for any considerable time together, in such a manner as that one of them shall always and regularly lose, or sell its goods for less than it really costs to bring them to market. But if the bounty did not repay to the merchant what he would otherwise lose upon the price of his goods, his own interest would soon oblige him to employ his stock in another way, or to find out a trade in which the price of the goods would replace to him, with the ordinary profit, the capital employed in sending them to market. The effect of bounties, like that of all the other expedients of the mercantile system, can only be to force the trade of a country into a channel much less advantageous than that in which it would naturally run of its own accord.” (*Wealth of Nations*, book iv. chap. v.)

BOURBON, an island in the Indian Ocean subject to France. It lies about 90 miles S.W. from Mauritius, and is 440 miles E. from Madagascar. Area 895 British square miles. Population in 1836, 106,099, of which 69,296 were negro slaves. The chief town and port is St Denis, situated on its northern side, in 20° 50' S., and 55° 31' E.; pop. 12,000. It possesses no close harbour, but only an open and dangerous roadstead.

The island consists of the heights and slopes of two mountains, the most southerly of which contains a volcano in perpetual activity. A great part of the interior is a volcanic desert; but the districts on the coast are generally fertile. The climate though humid, is pleasant and salubrious; hurricanes are, however, frequent and violent. The staple product for exportation is sugar; there are also extensive plantations of coffee and cloves. The forests abound in a variety of fine timber and dye-woods; and ambergris, coral, and turtle, are found on the shores. The total value of articles exported in 1836, of the growth and produce of the island, was 16,743,899 fr. (or £669,736); the principal being raw sugar, 18,173,092 kilogrammes, value 12,721,164 fr.; coffee, 990,013 kilogrammes, value 1,386,018 fr.; cloves, 556,650 kilogrammes, value 1,403,575 fr. In the same year the total value of the imports was 13,769,541 fr. (or £550,782), consisting chiefly of cottons and other manufactured goods, with rice, wheat, oils, wine, cattle, timber, and salt. The principal commercial intercourse is with France, where the bulk of the produce of the island is exchanged for manufactured articles,—Madagascar, to which French manufactures are sent in exchange for cattle, &c.,—India, to which cloves and other articles are sent in return for rice,—and the neighbouring island of Mauritius.

Shorea, Walpole, and Meyer, same as France.

Import in 1857, 8,142,000 fr., or £35,000; export, 8,000,000 fr., or £33,000.

BOX (Fr. *Bois*), a small tree (*Buxus sempervirens*), now very scarce in this country, but common in the south of Europe and west of Asia. Its wood, which is strong and highly valuable, is close, hard, heavy and durable, of a yellowish colour, still better than any other, and is the only kind adapted for engraving. It is also used for the wooden part of fine tools, snuff-boxes, and for a variety of purposes requiring strength, beauty, and polish, in timber. A late reduction of the duty from £5 to 10s. per ton (6 & 7 Wm. IV. c. 60), has led to a greatly increased consumption of boxwood, and about 700 tons are now annually imported, chiefly from Turkey and Spain.

BRACCIO, an Italian cloth measure, varying in different places from about 21 to 25 imperial inches.

BRAN, the husks of ground corn.

BRANDY (Fr. *Eau de vie de vin*. Ger. *Brandwein*. It. *Aguardente*. Por. *Guardante*. Sp. *Aguardiente*), a spirit distilled from wine, and from the marc, or fermented residue of pressed grapes. In general it is obtained from wine of superior quality, fit only for making brandy. The product of the distillation is at first colourless, but it obtains a certain degree of colour by age. Most commonly, however, it is coloured artificially by mixture with burnt sugar and saunders-wood. The quality is of course dependent both on the material from which it is procured, and the skill with which it is manufactured. Marc brandy is said to possess a more acid flavour than that obtained from wine.

Brandy is manufactured in most wine countries, but the best, and almost the only kind imported into Britain, is made in France. The quantity annually prepared in that country is estimated, though somewhat vaguely, at about 20,000,000 gallons, of which nearly one-third is exported. The finest, made at Cognac, in the department of Charente, is said to be procured from white wine fermented so as not to become impregnated with the oil of the grape skin. The Cognac brandy is shipped mostly from the port of Tonnay on the Charente; but brandy is likewise a valuable export from Cote, Bordeaux, Rochelle, and Nantes. Besides the British, the Anglo-Americans and Dutch take considerable quantities of it; but the exports to other countries are comparatively trifling. That exported from Spain is shipped chiefly at Barcelona for Cuba, Mexico, and the South American States.

The extravagant duty of 22s. 6d. per gallon levied on foreign spirits has materially checked the use of brandy in this country; indeed the quantity at present entered for home consumption is much less than it was fifty years ago. In 1790, when the duty was 6s. the annual consumption was about 1,200,000 gallons imp. meas. At present, although it has somewhat increased of late years, it averages only about 1,400,000 gallons annually. A considerable quantity, however, is besides introduced in an irregular manner, as a contraband trade is carried on with activity along the coast of the Channel.

In 1828, the quantity of brandy imported amounted to 2,320,135 imp. galls. (including over-stuff) of which 2,200,000 galls. were from France, the quantity entered for home consumption was 1,200,000 galls. and the quantity re-exported to 1,120,000 galls. (gross). Of the latter, 800,000 were sent to British America, 300,000 galls. to British West Indies, 315,000 galls. to Cape of Good Hope, 100,000 galls. to United States, 57,514 galls. to East Indies, 100,173 galls. and Australia, 122,104 galls. There is smaller quantities to the West Coast of Africa, to the South American States, to the Cape Verde, to the Canaries, and to other places. The quantity of brandy consumed in this country is usually about 1,200,000 galls.; and that in the stocks of dealers about 200,000 galls. (Harris.)

BRANK. [BUCK-WHEAT]

BRASS, an important alloy of copper and zinc, usually prepared by cementation of calamine, a native carbonate of zinc, with granulated copper. Sometimes stibnite, a native sulphuret, is employed instead of calamine. It is of a fine yellow colour, susceptible of a high polish, and is little liable to rust. It is very malleable, and ductile when cold. At a high temperature it is brittle. Sp. gr. 7.8 to 8.4. It is more fusible, sonorous, a worse conductor of heat, and harder than copper. The relative proportions of the two metals vary in the different kinds of brass, but there is seldom less than one-ninth, or more than one-fourth of zinc. Brass has been known and used from the earliest ages. Its colour and other properties recommend it in preference to copper for many purposes in the arts, and it is extensively employed both for useful and ornamental purposes. From being readily used on a lathe, it is well adapted for philosophical instruments, and those used in manufacturing processes. It is besides used in the manufacture of a great variety of articles, such as buttons, chandeliers, lamps, vases, fenders, fire-screens,

of Rio de Janeiro, where the quantity raised is very great, and is yearly increasing. It is also raised, but to a comparatively trifling extent, in the northern provinces; also the inland ones, particularly Minas Geraes. The cultivation of tobacco, formerly so common, is now on the decline; the best is grown near Bahia. Rice is raised principally in the state of Santa Catharina, and in the provinces of Maranhão and Pará.

The internal commerce of Brazil chiefly consists in conveying the produce of the country to the coast, and receiving European manufactures in exchange. Mules form the common means of transport, as the roads seldom admit of the use of carriages, and as yet there is no inland navigation. A number of large rivers intersect the country in various directions; but very little is doing towards improving their capabilities. A company, under English direction, has however been formed at Rio de Janeiro for the survey and navigation of the Rio-doce.

The foreign commerce of Brazil exceeds that of any other country of America except the United States, and is yearly increasing. The exports chiefly consist of coffee, sugar, cotton, and tallow, horns, brazilwood, rosewood, fustic, tobacco, rice, indigo, ipecacuanha, castor-oil, castor-beans, tapioca, caoutchouc, nuts, gold and diamonds. The trade in slaves is a government monopoly, but the commodity is extensively smuggled. The chief markets for Brazil produce are, the United States, and in Europe, London, Liverpool, Hamburg, Trieste, Havre, Lisbon, and Oporto. In 1838, the principal articles carried to the United States consisted of 10,373,713 lbs. coffee; 201,780 lbs. cocoa; 24,464,505 lbs. cotton; 86,515 cwts. hides; 132 tons fustic; and 10,469 lbs. tobacco. A considerable portion of the produce sent to the other European markets is on English account, more particularly coffee and hides. These two articles cannot (owing to prohibitory duties) be introduced into the United States except for re-exportation; such cargoes, however, are frequently sold in London by the vessels waiting their ultimate destination in the Channel.

The imports consist of manufactured commodities of all kinds, tea, wine, oil, and provisions. The value of British manufactures and produce imported in 1827, according to the statement of the British Board of Trade, was £2,312,109; in 1836, £3,030,532; in 1838, £2,006,614: the latter sum is chiefly composed of apparel, &c. £11,576; arms and ammunition, £37,214; ale and beer, £1295; brass and copper manufactures, £25,595; butter and cheese, £106,221; cordage, £3063; cotton manufactures, £1,657,702; earthenware, £35,275; glass, hardware and cutlery, £51,570; hats, £9063; iron and steel, £50,527; lead and tin, £1,043; leather, wrought and unwrought, £8164; saddlery, £2243; linen manufactures, £13,857; machinery, £13,857; painters' colours, £8238; plate, £1717; silks, £12,869; soap, £58,769; stationery, £10,960; tinware, £2000; woollen manufactures, £228,932; &c., £58,857. A variety of articles of foreign and colonial produce are also imported into the United Kingdom: in 1838, the principal were 2528 lbs. cassia; 29,107 cwts. flour; 55,707 lbs. cottons; 11,164 pieces India silks; 4612 lbs. pepper and pimento; 536 lbs. quicksilver; 4060 galls. brandy; 3906 galls. Geneva; 3824 lbs. tea; 165,334 lbs. tobacco; and 1 wine, chiefly Spanish and Portuguese; besides which a considerable portion of the produce from other countries are on English account: From France are imported wines, cottons, silks, saddlery, glassware, flour, books, stationery, jewellery, perfumery, and fancy goods. From Portugal, wine, oil, snuff, and a small quantity of linens: From the United States, about two-thirds of the flour, and nearly all the tea consumed in the country; also ordinary wax and sperm candles, India goods, and a variety of rough articles of furniture, implements of husbandry, &c.: From the Hanse Towns, furniture, coffee bagging, linens, paper, glass, &c.: From Belgium, cutlery, arms, copper and brass manufactures, &c.: From Spain, fruit, &c.: From Italy, macaroni, vermicelli, marble, &c.: From Holland, demyjohns, &c.: From Sicily, wine: From Sweden, iron, tar, pitch, pine, boards, &c.: From the negroes continue to be brought in immense numbers, notwithstanding the utmost vigilance of the British cruisers; these are paid for chiefly in coarse muskets and gunpowder, imported for this infamous traffic from England and Belgium; and in the common cotton fabrics worn in the British manufacturing districts under the name of "coast goods." The ship employed in the slave-trade is imported from the United States.

The total amount of exports is estimated at about £6,000,000, and the imports at nearly the same sum. The upwards of two-thirds of the whole foreign trade is in the hands of the British. The ports of Brazil are chiefly conducted, stated in their order from N. to S., are Pará, Maranhão, Pernambuco, Maceio, Bahia, Rio de Janeiro, Santos, and Rio Grande: the principal of the following:—

Pará, lies in 2° 31' S. and 44° 19' W., lies on the island of that name, forming the S. E. side of the bay of the same name; pop. 30,000. The harbour is good and safe, but the entrance is difficult. Exports, chiefly sugar, sent for the most part to Liverpool, and rice and hides shipped to Portugal. The value of the exports in 1835 was £489,014; whereof in 23 British vessels £259,924; 36 Brazilian, £83,975; 19 Portuguese, £50,924; 19 Spanish, £23,193; 8 French, £27,547; 23 American, £32,194; and 3 vessels of other nations, £11,257. In 1838, the value of the exports was £303,552; and of the imports, £414,002.

Maceio, in 8° 3' S. and 34° 52' W., the capital of the province of that name, and one of the most important ports of Brazil, comprises three distinct towns, which are built on sandbanks surrounded by the sea, and connected by bridges; pop. including the adjoining city of Olinda, nearly 100,000.

Exports, cotton, sugar, and hides; the estimated value in 1835 being £951,808. The number of vessels that entered in the same year was 247; of which 59 were British; the value of the British cargoes being in merchandise, £464,179; and in specie by packets, £35,821; total, £500,000.

Bahia, is situated in 13° 1' S. and 38° 32' W. in the capacious bay of All Saints, with an excellent anchorage, pop. 120,000. The anchorage is abreast of the city, a mile and a half distant, in 8 to 12 fathoms.

Bahia was formerly the capital of Brazil, and though now subordinate to Rio, is still a place of great consideration. It is strongly fortified, and possesses both public and private shipyards. Exports, sugar, cotton, coffee, hides, tobacco, fancy woods, and drugs. The value of the exports in 1835 amounted to £1,412,521, of which £942,956 were from Britain.

Rio de Janeiro (formerly St Sebastian), in 22° 55' S., and 43° 9' W., is beautifully situated on the inside of a small bay, forming one of the most magnificent natural harbours in the world; pop. 200,000, two-thirds being blacks and mixed castes. The city lies about 4 miles from the bay.

the entrance to the bay. To the right on entering is the fort of Santa Cruz, within hail of which all vessels going into the harbour are required to pass, in order to answer any questions that may be put to them. Rio is the seat of more than one-half of the foreign commerce of Brazil; and it has likewise a very extensive inland trade, particularly with the provinces of Minas Geraes, Goyaz, and Matto Grosso. It is the key to the mining districts,—furnishing all their supplies and receiving all their produce for shipment or other disposal. Exports, coffee, nearly 600,000 bags (each of 5 arrobas or 160 lbs.); sugar, about 20,000 cases (each from 1200 to 2000 lbs.); hides, No. 300,000; cotton, tallow, drugs, dyes, gold, and diamonds; the imports, of manufactured commodities of all kinds, flour, dried fish, wine, and brandy. The value of foreign goods imported into Rio in 1836, according to a statement given in the *Jornal do Commercio*, was £3,839,379; of which from Britain, £2,005,543; France, £581,571; Portugal and her possessions, £281,285; United States, £225,353; Hanseatic States, £239,384; Uruguay, £96,857; Belgium, £73,789; Spain, £61,270; Sardinia, £56,223; Argentine Republic, £44,284; Holland and her colonies, £37,046; Sicily, £33,219; Sweden, £31,589; Chili, £26,135; Austria, £14,067; Sundries, £31,164. These imports are exclusive of negroes, of whom vast numbers continue to be brought from Africa to this port or the neighbouring coast.

MEASURES, WEIGHTS, MONEY, FINANCES, &c.

The Measures and Weights are nominally those of Portugal; but there are some variations. In trade, the following proportions are usually observed: 5 varas = 6 Imp. yds.; 4 covados = 3 Imp. yds.; 99 Brazilian lbs. = 100 lbs. avoirdupois. At Rio Janeiro, 100 medidas = 73½ wine, or 61½ Imp. galls.; and 12 alqueires = 13½ Winchester bushels. At Bahia, 1 canada = 1½ Imp. galls.; and 7 alqueires = 6 Winchester bushels. At Maranhão, the alqueire = 1½ Winchester bushel.

Money.—The integer of account is the rea, and 1000 reas make 1 milrea (1 \$1000), the value of which fluctuates, being reckoned in depreciated government paper, or in a debased and irregular copper money. The course of exchange with London was recently quoted at Rio Janeiro, where the paper money chiefly circulates, at only 31d. per milrea. At the northern ports of Pernambuco, Maranhão, and Para, the currency is principally copper.

A conto is 1000 \$1000.

The paper money is in the form of imperial bank or rather treasury notes for one milrea and upwards, which are inconvertible; and the copper mostly in pieces of 40, 20, and 10 reas. The amount in circulation was lately stated to be about 33,500 contos of paper, and 6500 contos of copper money; in all 40,000,000 \$1000. Various projects have been brought forward for the reform of the Brazilian currency, but none has yet received the sanction of the government.

No silver or gold coins are at present in circulation. Before the introduction of paper money, the principal silver coin was the 960 rea piece, a Spanish dollar restamped, worth 4s. 2d.; the principal gold coin was the piece for 4 \$1000, worth 20s. 1½d.

Bills are usually drawn on London at 60 days' sight.

Finances.—The public revenue for the year 1838-39 was estimated at \$13,663,289, or about £2,732,658; and the expenditure for the same year (including \$5,877,985 for the finance department) at \$13,622,696. The internal debt of the empire is estimated at about £5,000,000. The Brazilian loans raised in England consist of £1,686,200 contracted for in 1824 at 75 per cent.; £2,000,000 contracted for in 1825 at 85 per cent.; and £800,000 contracted for in 1829. These were raised by the issue of bonds for £100, £200, £500, and £1000; the whole bearing 5 per cent. interest, payable half-yearly on the 1st April and 1st October.

Duties.—The duty on all imports was fixed by treaty at 15 per cent. on the tariff value; but now, in consequence of the alteration of certain charges, it is estimated at 20 per cent. The duties on exports vary at the different ports. The treaty with Britain by which the import-duty was fixed continues in force until November 16, 1842, and further until notice given by one or other of the parties, in which case it expires at the end of 2 years from the date of such notice.

Brazil is said to have been discovered A. D. 1500 by Pinçon, a Spanish navigator, one of the companions of Columbus; but it was taken possession of in the same year by Pedro Alvarez de Cabral, an admiral of Emanuel, king of Portugal, by which country it was soon afterwards colonized. In 1808, in consequence of the invasion of Portugal by the French, the royal family removed to Brazil, and remained there till 1821. In 1822, Don Pedro, the crown prince of Portugal, who had been left by his father Regent of Brazil, was proclaimed emperor by the inhabitants; and in 1823 a constitution was adopted. In 1831, an insurrection broke out, which led to the abdication of Pedro I. in favour of his infant son. [PORTUGAL.]

BRAZILETTO, a kind of brazilwood (*Casalpinia nesicaria*) of very inferior quality which grows in the West Indies. It is imported from the Bahamas and Jamaica.

BRAZIL-NUTS, the seeds of *Bertholletia excelsa*, a remarkable plant, of which there are large forests on the banks of the Orinoco. About thirty of these nuts are contained in cells within a hard spherical fruit nearly the size of a man's head. They are wrinkled triangular substances, having pure white kernels or almonds, which form a delicious fruit when fresh, and also yield a large quantity of oil suited for lamps. They are exported to Europe from Para and French Guiana.

BRAZILWOOD (Fr. *Bois de Brésil*. Ger. *Brasilienholz*. Por. *Pao Brasil*. Sp. *Madera del Brasil*), a valuable dye-wood, the product of a tree (*Casalpinia crista*!) which grows in various tropical countries, but is found in greatest abundance, and of the best quality, in the province of Pernambuco in Brazil, where it is known as *pao de Rainha*, or Queen's-wood, from being the subject of a royal monopoly. The tree commonly grows in dry places and amid rocks, and seldom exceeds thirty feet in height. The only valuable part is the heart, which, after being freed from the thick bark and white pith, is only about one-half of the

the trunk. Brazilwood is ponderous and hard ; and when first cut is of a light red, but becomes darker by exposure to air. It is variegated with irregular spots, has a sweetish taste when chewed, and gives out its colour as a property by which it is distinguished from saunders-red or sandal-wood, and close-grained pieces are preferred. The wood is susceptible of a polish, and is occasionally used by the turner and cabinetmaker, but it is employed as a red dye. It is often used for giving to silk a crimson hue, in the manufacture of red ink, and in the preparation of a brilliantly red lake. Its price is from £50 to £85 per ton.

Bread is in this country made almost wholly from wheaten flour. It may be made into biscuit bread and loaf bread. *Biscuit bread* is made solely from flour or without undergoing any fermentation ; and after being kneaded, flattened, and baked, is compact, heavy, and hard. *Loaf bread* is made by working the flour into paste with water, yeast, and a little salt, allowing it to stand until a certain degree of fermentation takes place, and then baking it in an oven at about 488° Fahr. During the fermentation, a quantity of gas is formed, which is prevented from escaping by the toughness of the paste, and dilated by the heat of the oven, the bread is rendered light, porous, and soft. Many bakers add alum to the flour. This admixture neither injures the quality nor the whiteness of the bread ; but adulterations which are not so innocent are sometimes had recourse to, for the purpose of concealing the taste of damaged flour, or of making the bread white when formed of inferior flour. The use of alum is liable to objection, as being positively injurious to health ; it is employed to lighten the colour. (See *Dr Colquhoun on the Art of Baking Bread, Annals of Philosophy*, vol. 28. *Donovan's Domestic Economy*.)

The quantity of bread produced by the same weight of flour depends in some degree upon the properties of the corn. A Winchester bushel of wheat of fair quality weighing 60 lbs., is usually calculated to yield 48 lbs. of household flour, of the sort chiefly used for the manufacture of bread throughout England. The assize of bread was fixed by the Lord Mayor of London, a sack of flour (of 140 lbs.) was calculated as sufficient to make 84 quartern loaves of 4 lbs. 5 oz. The bakers, however, admit that if the flour be of good marketable quality, they can make 86 such loaves, or 370 lbs. 14 oz. of bread, equal to 92½ loaves of the weight of 4 lbs. each.

REGULATIONS.—In England (beyond the London district), and in Scotland, the sale of bread is regulated by the statute 6 & 7 Wm. IV. c. 37, the chief enactments of which are as follows :—Bakers must sell bread by weight (except French or fancy bread or rolls), under a penalty not exceeding 40s. ; and must use avoirdupois weight, under a penalty not less than £2 nor more than £5 (§§ 4, 5). Bakers must keep scales in their places of sale, in order to weigh the bread when required, under penalties (§§ 6, 7). The regulations apply to bread made of meal, of wheat, barley, rye, oats, buck-wheat, Indian corn, pease, beans, rice, or potato, with any common salt, pure water, eggs, milk, barm, leaven, potato or other yeast, or any other ingredient (§ 2). There are heavy penalties for adulteration (§§ 8, 9). The sale of bread in London is regulated by the acts 1 & 2 Geo. IV. c. 50, and 3 Geo. IV. c. 61. In Ireland by the act 1 Vict. c. 28. These acts contain regulations similar to the

former times, the peasantry of these kingdoms used only bread made of rye, oats, or barley ; and that of wheat was exclusively devoted to the higher classes ; indeed, so prevalent was the use of inferior substitutes for this “ staff of life,” that in the description of a farmer’s life as depicted in the “ Vision of Piers Ploughman,” supposed to have been written in the fourteenth century, we find

“ A few croddes and creyme, and a cake of otes,
And bred for my barnes of beanes and of peases,”

now used by persons of that class. In later times, the increase of the comforts of life gradually introduced wheaten bread into more general consumption ; and now all other grain has nearly disappeared in the formation of our household loaf ; though the use of oat and barley cakes, and of the shape of “ stirabout ” and “ porridge,” is indeed still common among the labouring peasantry of Scotland and Ireland ; while, in the north of England and some parts of Wales, a mixture of wheat, under the name of “ meslin,” is usual among respectable families. In the north the use of rye-bread is still universal.

AD-FRUIT-TREE (*Artocarpus incisa*) is a native of the South Sea islands, India, and other tropical countries. It is about forty feet in height, having a trunk commonly from one to two feet in diameter, and a large umbrageous canopy of leaves. It bears in about five years, and will probably continue prolific for fifty years, which, in the South Sea islands at least, is produced two or three or even four times a-year, is something like a roundish or oval melon, with hexagonal ribs, and six or eight inches in diameter. The seedless variety is most esteemed, and the substance when washed resembles the crumb of wheaten bread. Mr Ellis,

the missionary, considers the bread-fruit as the staff of life to the South Sea islanders ; and Dr Solander called it " the most useful vegetable in the world," and urged that no expense should be spared in its cultivation. The mere idea of bread growing spontaneously was doubtless calculated to excite attention,—almost, perhaps, as strongly as the subsequent description of Byron :—

" The bread-tree, which, without the ploughshare, yields
The unreap'd harvest of unfurrow'd fields,
And bakes its unadulterated loaves
Without a furnace in unpurchased groves,
And flings off famine from its fertile breast ;
A priceless market for the gathering guest."

The wood is useful, and equally so the gum that exudes from it. The bread-fruit-tree was introduced by the British government into the West Indies ; but it is not reckoned equal to the plantain as food. The species, called *jack* or *jaca* (*Artocarpus integrifolia*), is a larger tree than the preceding, the trunk being, according to Roxburgh, from eight to twelve feet in circumference. The fruit is oblong and very large, sixty or seventy lbs. in weight. As an article of diet it is not much esteemed, though the natives of Ceylon eat it freely.

Some other species grow to a large size, and yield valuable timber, in Bengal and Malabar.

BREMEN, one of the Hanseatic republics, is situated on the river Weser, about 60 miles from its entrance into the North Sea. It consists of a town and small territory. Area, 67 British square miles ; pop. 57,000. The government is vested in a senate and convention of burghesses.

The city of Bremen lies in 53° 4' N. and 8° 48' E., and is divided into two unequal portions by the Weser ; pop. 41,500. Vessels drawing not more than 7 feet come up to the town, and those drawing 13 feet may come up to Vegesack, about 13 miles below Bremen ; but large vessels do not generally ascend higher than Bremen Haven, lying on the E. bank, about 38 miles below the town. Bremen possesses considerable manufactories of refined sugar, tobacco, leather, and other articles ; but its importance is derived from its being one of the principal continental ports for the warehousing and transit of foreign and German commodities. By the Weser, Werra, Fulda, and other channels, it receives produce and manufactured goods (particularly linens) from Hanover, Saxony, Hesse, and Westphalia ; supplying these places in return with tropical produce, British goods, and other commodities. About 700 vessels arrive annually, including nearly 140 from Britain, and nearly the same number from the United States. The imports in 1838 consisted of 14,498,000 lbs. coffee ; 23,818,000 lbs. tobacco ; 14,000,000 lbs. raw sugar ; 6600 bales cotton ; 2,500,000 lbs. rice ; 45,090 tuns train oil ; 1,000,000 lbs. butter ; 800,000 lbs. cheese ; 1,180,000 lbs. hides ; 200,000 lbs. tea ; 33,000 lbs. indigo ; 11,000 hhds. wine ; 500,000 lbs. linseed ; with earthenware and other manufactured goods, grain, metals, dye-stuffs, spices, saltpetre, rosin, spirits, currants, tar, tallow, and a variety of articles of smaller value ; amounting annually in all to about 16,000,000 rix-dollars, or £2,633,280. The exports by sea amount to about 12,000,000 rix-dollars, and consist chiefly of linens to the annual value of about 3,500,000 rix-dollars ; tobacco and snuff about 6,000,000 lbs. yearly ; soap, starch, refined sugar, syrup, and other manufactures ; grain, hams, bacon, bones, bark, oil-cake, rags, chicory, quills, drugs, and lead. Of late years Bremen has likewise become the chief port for emigration from the Continent to America.

Measures and Weights.—The ell of 2 feet = 22·76 Imp. inches, and 100 ells = 63½ Imp. yds.

The ahm of 20 viertels, 45 stubchen, or 180 quarts, = 31½ Imp. galls. ; 1 fuder of Rhenish wine = 6 ahms ; 1 ahm of French wine = 44 stubchens ; 1 tonne beer = 45 stubchens ; 1 tonne of train oil = 6 steckans, or 96 mingels.

The last of corn of 4 quarts, 40 scheffels, 160 viertels or 640 spints, = 9·77 Imp. quarters.

16 ounces = 1 pound ; 14 lbs. = 1 lispond ; 116 lbs. = 1 centner = 127·44 lbs. avoird. ; or 10 Bremen lbs. = 11 lbs. avoird. nearly. Gold and silver are weighed by the Cologne mark.

Money.—The integer of account is the rix-dollar current of 72 groots, or 360 schwaren ; and 5 rixdollars are reckoned equal 1 Carl d'or, or old Louis d'or, worth about 16s 5d. The par of exchange with London is thus nearly R.D. 609 = £100 ; and 1 R.D. = 3s 3½d.

Usance of bills from Germany and Holland, 14 days' sight, and from England and France 1 month after date. Days of grace, 8 ; but none are allowed on bills at sight, or from 2 to 5 days after sight.

Banks, Finances, &c.—Bremen possesses, among other institutions, a bank, a discount office, and several insurance offices. According to the budget for the year 1838, the public revenue was R.D. 536,078 or £88,185, and the expenditure, R.D. 580,207, including R.D. 101,600 as interest, and R.D. 45,084 as sinking fund of the public debt.

Duties.—The duty on all goods exported is only ½ per cent. *ad valorem* ; on all goods imported ½ per cent. The port and shipping charges are also very moderate.

BRENTA, an Italian liquid measure equal to nearly 16 Imp. galls.

BRICK, a mixture of clay, with sand, ashes, or chalk, dried in the sun, and burned in a *clamp*, or baked in a kiln into a kind of artificial stone for the use of builders. They are made in very large quantities in England and Ireland ; but not in Scotland, where stone is the chief material for building. They are of various kinds, but are almost all moulded of one size, namely 10 inches long, 5 wide, and 3 thick ; and when burned, on an average 9 inches long, 4½ wide, and 2½ thick. The best *stock-bricks* (those from the centre of the clamp, of an equal hard

and even colour) are worth from 30s. to 40s. the 1000 ; the inferior soft bricks, called *place-bricks*, from 20s. to 30s. ; and *clinkers*, or *burrs*, masses of 1 brick, about 10s. a-load. *Dutch clinkers* are small hard yellow bricks. *stocks* are carefully tempered bricks made from clay, to which ooze, chalk, &c. is added; they are of a fine clear yellow colour, and are used for facing and making arches over doors and windows ; the softest kind are called *cut-bricks* from their admitting of being cut with the trowel. *Fire bricks* are kiln-burnt, of a peculiar kind of clay found in perfection at Windsor, Stourbridge, and in other parts of Wales, whence the varieties derive their names. These last, sometimes called Welsh lumps, stand an extreme heat, and are made of large sizes for boilers, brewers' coppers, and other purposes.

Brick-makers in Great Britain must duly enter their fields for the inspection and superintendence of the Excise, in terms of the act 2 & 3 Vict. c. 24. This act likewise provides for payment of following duties :—For every 1000 bricks of a size not exceeding 150 cubic inches each, made in Great Britain or brought there from Ireland, a duty of 5s. 10d. For every 1000 bricks, exceeding that size, made in Great Britain, or brought there from Ireland, a duty of 10s. These duties are levied on the bricks being exported to Ireland, or to foreign parts as merchandise.

Brick manufacture has greatly increased of late years. In England, the number charged with duty is about 1,500,000,000 ; in Scotland, 30,000,000 ; total, about 1,530,000,000 ; of duty about £440,000. The quantity made in Ireland is not known, as no duty is levied in that part of the United Kingdom.

BRIGANTINE, OR BRIG, a vessel with two masts, square rigged in the same manner as a ship ; the spanker and spanker-boom being in the brig attached to the mainmast. [SHIP.]

BILL, a flat fish (*Rhombus vulgaris*), similar to turbot, but smaller and inferior quality. It is plentiful on our southern coast, and is brought in abundance to the London market.

BRIMSTONE. [SULPHUR.]

BRISTLES (Ger. *Borsten*. Rus. *Schtschetina*), hard, strong, shining hairs, which form the manes of wild boars and hogs, and are imported from Russia and used for the use of brushmakers, shoemakers, and saddlers. About 1,700,000 pounds annually entered for home-consumption.

BRITANNIA-METAL, a compound of tin, the regulus of antimony, copper, &c., extensively employed in Sheffield and Birmingham, especially the former in the manufacture of teapots, spoons, and a variety of other articles. All articles that were formerly made of pewter, and most of those now made of silver, which are plated, are imitated in Britannia-metal. The articles made of it possess considerable beauty, and are very cheap ; and when sufficiently massive, are also very durable.

BRUSCADE, a fabric composed of satin, striped or purpled with gold or silver. It was at one time used for dress, but more lately for ornamental furniture. None is now manufactured in the United Kingdom for many years. The last is said to have been some very elegant pieces woven at Spitalfields, to be used as chair covers at Carlton House, for his Majesty King George IV.

BROKER, a person employed as an agent or middleman to transact business between merchants or other individuals. Brokers generally confine themselves to negotiations for the purchase and sale of some particular articles, by which they acquire an intimate knowledge of their qualities, as well as an acquaintance with the sellers and buyers, and the state of supply and demand ; and are thus enabled to negotiate between dealers on terms equitable for both. A merchant seldom has the same intimate knowledge for his guidance, and therefore generally finds it advantageous to effect his purchases and sales through the medium of brokers. Brokers are, however, of different kinds, as, besides the ordinary commercial or produce brokers, there are ship-brokers, insurance-brokers, stock-brokers, and stock-brokers.

A **commercial broker** is a person who makes it his business to find purchasers for goods offered for sale, and vendors of goods wanted on purchase, thus becoming the medium through which transfers are accomplished. Brokers in London require, by the Statute in Anne, c. 16, to be admitted by the mayor and aldermen, who have a general superintendence over them, and are entitled to enforce certain regulations which were empowered by that act to frame. By local act 57 Geo. III. c. 60, they pay an admission fee of £5, and the sum of £5 annually ; and are liable to a fine of £100 for acting without being duly admitted. In England, a broker is liable for both parties, under the section of the statute of frauds (29 Ch. II. c. 3, § 3) which renders it necessary that in sales where the price exceeds £10, some writing should be passed between the parties or their agents. The writing in this case is the

bought-and-sold notes, which are notes of the bargain delivered by the broker, one to each party. "With respect to contracts made through a broker," says Mr Starkie, "it is now perfectly well settled that the bought-and-sold notes are, if they correspond, evidence to bind the bargain, although the broker has not signed a formal entry in his book, *secus* if they do not correspond. Although it be clear that an entry signed by the broker is not essential to the validity of a contract where formal bought-and-sold notes have been delivered, it is another question whether the broker's entry of the contract, signed by him, would be sufficient in the absence of sufficient bought-and-sold notes" (*Law of Evidence*, ii. 869, 870). Formerly the entry in the broker's book was held to be the contract, the bought-and-sold notes being merely transcripts of it, but the rule has latterly been to place dependence on the latter where they exist. "There is not," says Professor Bell, "in Scotland any necessity, as by the practice of England, for a signed note to be entered in the broker's book" (*Bell's Principles*, § 89). Where the name of the purchaser has not been communicated, the seller may withdraw where the price is not for ready money, if he give speedy warning after inquiry into the condition of the purchaser. (*Morton on Vendors and Purchasers*, 76-78. *Smith's Mercantile L.* 411, 412. *Starkie*, ut supra. *Bell's Com.* i. 435, 436.) [FACTOR. LIX.]

Ship-brokers are persons who undertake the management of all business matters occurring between the owners of vessels and the shippers or consignees of the goods which they carry; such as procuring cargo or a charter for outward-bound ships, entering and clearing them at the custom-house, and collecting freight on the goods which vessels bring into port. Many ship-brokers act also as insurance-brokers, in which capacity they procure underwriters to policies of insurance, adjusting with the latter the various conditions under which they engage to take the risk, and recovering the sums for which they are responsible in the event of loss. [INSURANCE. POLICY.]

For an account of the duties of bill-brokers and stock-brokers, see the heads EXCHANGE and FUNDS respectively.

Persons who deal in old household furniture are also called brokers, though their occupation bears no analogy to that of any of the commercial agents above mentioned. In England, such persons frequently superadd to their business the appraising and distraining of goods, for the performance of which functions, however, they must provide themselves with an excise license, and conform to the regulations of the act 57 Geo. III. c. 93. The business of a pawnbroker is also different from those already noticed. [PAWNBROKER.]

BROKERAGE, the per centage charged by brokers for the sale or purchase of goods, bills of exchange, or stock. [COMMISSION.]

BROMINE, a substance obtained by a chemical process from the uncrystallizable residue of sea-water, commonly called *bittern*. It is a liquid of a deep reddish-brown colour, and disagreeable suffocating odour. Sp. gr. 3. It is highly poisonous. Bromine was discovered by M. Balard of Montpellier in 1826. The alcoholic solution of bromine, and the bromide of sodium are employed in medicine. (*Brand's Chemistry*.)

BRONZE, an alloy consisting of from 8 to 12 parts of tin, with 100 of copper. It is sometimes called gun-metal; and is used for casting statues, cannons, and other purposes.

BRONZE-POWDER. [MOSAIC GOLD.]

BROOM, a small, hardy, evergreen tree (*Spartium scoparium*), common in this country. The wood is used for pins, pulleys, and snuff-boxes; when of sufficient size it is also applicable to the same purposes as laburnum, which, except in colour, it closely resembles. The branches are used for thatching. The flowers of the species called dyer's broom (*Genista tinctoria*) yield a bright yellow colouring matter, which is used in dyeing wool.

Broom, a well known utensil, so called from having been originally made from the twigs of the broom-tree.

BRUNSWICK, a German duchy, consisting of several detached portions of territory on the rivers Weser, Leine, Ocker, and Aller, between lat. 51° 38' and 52° 59' N., and long. 9° 10' and 11° 22' E., and is contiguous to Hanover and Prussia. Area, 1505 square miles; pop. (1839) 260,000. Circles: Brunswick, Wolfenbüttel, Helmstedt, Gandersheim, Holzminden, Blankenburg. Capital, Brunswick; pop. 35,000, chiefly Lutherans. Government, a constitutional monarchy, regulated by the national compact called the Landschaft's-Ordnung, of the 12th October 1832.

The northern districts, particularly Wolfenbüttel, have an undulating surface, and their soil is highly productive; the southern, including the Blankenburg territory, which lies within the

the Harz, are composed of a succession of mountains, in part well wooded, and studded with cultivated valleys. The aspect of the whole of the duchy is indicative of good order and fertility. The principal articles of home manufacture exported, are timber, yarn, wax, oil, chicory, madder, leather, hops, and ironware, amounting to about £150,000 per annum. The chief imports are colonial produce, raw materials, fish, butter, cheese, and cattle. On the coast, and, except the Weser, no navigable streams, the foreign trade of the duchy is cramped; but a customs league exists with Oldenburg and Hanover, which opens to her communication with the German Ocean by means of the Elbe and the Weser; and the transit between the Hanse Towns and the interior of Germany is a considerable source of emolument. Fairs are held annually at the town of Brunswick; they begin on the Thursdays that precede Candlemas and St Lawrence's day, and each lasts about ten days.

Measures and Weights.—The ell of 2 feet = 48 inches. The wine ahm of 40 stubs = 28 Imp. galls. The corn wispel of 40 himtens = 34.20 Imp. bushels. The wispel of 114 lbs. = 117 lbs. 6 oz. avoird.; the Brunswick lbs. = 103 lbs. avoird.

Money.—The integer of account is the Prussian dollar of 30 silver groechen = 2s. 10½d. sterling.

Finances.—*Revenue*, after deducting the civil list expenditure, about £145,000 per annum. *Debt*, £495,000.

BROSSES (Fr. *Brosses*. Ger. *Bürsten*. It. *Setole*, *Spazzole*. Por. *Escovas*. Russ. *htschetki*. Sp. *Brozas*, *Cepillos*), cleansing instruments, generally made of bristles set in wood.

BUBBLE, a name familiarly applied to any chimerical or fraudulent commercial scheme carried on for the purpose of enriching the projectors at the expense of those who subscribe for shares. The mischief produced by the South Sea scheme and other similar projects, in the years 1719 and 1720, led to the passing of the statute 12 Geo. II. c. 18, commonly known as the *Bubble Act*, prohibiting companies of this kind from tending to the prejudice of the public. The difficulties inseparable from the execution of this act (which never seems to have been observed) were removed when it was repealed by the statute 6 Geo. IV. c. 91; and the projectors of such companies are now punishable only when they can be deemed guilty of fraud against common law.

DIOSMA, a low shrub (*Diosma crenata*) found at the Cape of Good Hope, the aromatic leaves of which, reputed to be powerfully antispasmodic, are an article of the *materia medica*.

MARSH-TREFOIL, or **BEAN**, a plant (*Menyanthes*) common in this country, the seeds of which are an article of the *materia medica*.

BUCKLE (Fr. *Boucle*. Ger. *Schnalle*). The buckle manufacture long ranked as one of the great staples of Birmingham, and its mutations through all the capricious and fantastic varieties of form and ornament which prevailed during the age of the French empire, and embroidery, and gold lace, would furnish materials for an interesting history. The shoe-buckle having at length been completely supplanted by shoe-lace, the manufacture lost all its importance. In 1791, his late Majesty George III. Prince of Wales, attempted, at the solicitation of the manufacturers, to restrict the trade for buckles; but the tide of fashion set too strongly in the opposite direction to be controlled even by the example of royalty.

BUCKRAM (Fr. *Bougran*. Ger. *Schettre*. It. *Tela collata o gommata*. Por. *Bucaran*. Sp. *Bucaran*), a coarse kind of linen or cotton fabric, having a stiffness imparted to it by strong gum and calendering, and chiefly used in the binding of clothes to keep them in the proper shape. Buckrams are ¼ wide; if made of cotton they are generally in pieces of 28 yards in length; when of linen, 14 yards. (*Perkins on Haberdashery*.)

BUCKWHEAT, or **BRANK** (Fr. *Blé Sarrasin*. Ger. *Buchweizen*. It. *Grano saraceno*. Por. & Sp. *Trigo Saracino*), an annual plant (*Polygonum fagopyrum*), native of a warm climate, which grows with a strong branching stem of a reddish colour, about 2 feet high, and the seeds of which, when ground, produce a meal which in appearance resembles that of wheat. Its cultivation has never been very extensive in the variable climate of Britain. In England a little of it is raised in Norfolk, Suffolk, and some other counties, on light and poor soils; in Scotland it is ploughed down as a manure while in flower. In Scotland it is cultivated except for feeding pheasants and other game. "On the Continent it is used in the distillery, and its flour made into bread, which is palatable and nutritious. In France it is given to horses, and it is said that a bushel of its meal is farther than 2 bushels of oats; and, if mixed with four times its bulk of straw, will be full feeding to any horse for a week. Its straw is said to be more nutritious than that of clover, and its blossoms form a rich repast for bees. The quantity may be reckoned about 4 qrs. per Imp. acre" (*Lawson's Agriculturist's Dictionary*). The quantity annually imported is of trifling amount.

BUDGET, a name applied to the annual statement of the public revenue and

expenditure submitted by the Chancellor of the Exchequer to the House of Commons. The accounts which accompany the statement show on the one hand the sums required for the public service during the year, under the heads of Navy, Army, Ordnance, and Miscellaneous Services, together with any incidental charges; and on the other hand are given the *Ways and Means* for meeting the same, consisting of the surplus (if any) of the *Consolidated Fund*, the annual duties, and such incidental receipts as come in aid of the national revenues. These accounts are, however, defective, and not readily understood, as the interest of the national debt and other permanent charges are not included, and nothing is stated regarding the produce of the permanent taxes, which form the consolidated fund, except the amount of its surplus or deficiency, after providing for the permanent charge upon it.

BUENOS AYRES, ARGENTINE REPUBLIC, or States of the Rio de la Plata, a South American confederation, whose territories embraced the vast country lying between lat. 22° and 41° S., and long. 57° and 70° W., formerly part of the Spanish viceroyalty of Buenos Ayres. Area, 910,000 square miles; pop. 700,000, chiefly Indians and mixed races. The confederated states were Buenos Ayres, Entre-Rios, Corrientes, Santa Fé, Cordova, Santiago, Tucuman, Salta, Catamarca, Rioja, San Juan, San Luis, Mendoza, with capitals of the same name, excepting Entre-Rios, of which the chief town is Baxada. This confederacy was dissolved some years ago by civil disputes, and the country remains in a divided condition. Buenos Ayres being the leading, and the only maritime state, its acts are often considered abroad as those of the whole country.

The chain of the Andes runs along the whole western boundary, and the country for several hundred miles to the east of this chain is generally mountainous. The territory E. of the river Parana is waving, well-watered, and fertile; but the district between that river and the mountains, and extending from N. to S. through the whole length of the country, consists of extensive plains. In the N. these plains are in many parts liable to be overflowed; in the S. they are called *pampas*, and are remarkably dry and destitute of trees. Mines of the precious metals exist in the states adjoining the Andes, particularly from Mendoza northwards; and the extensive districts between the Paraguay and the mountains abound in salt. The country is however chiefly celebrated for the countless herds of wild cattle and horses which roam in the vast natural pastures of the plains, and whose hides and tallow at present constitute the chief source of wealth. The grounds in the vicinity of the towns are in general cultivated, producing wheat, maize, and barley, together with the sugar-cane, orange, cocoa, fig, olive, and vine.

The external commerce of the country is conducted entirely at the town of Buenos Ayres, which is the outlet for the produce not only of the whole valley of the river Plata, but also of large districts of Peru and Chili. It is a fine healthy town, situated in lat. 34° 36' S., long. 58° 24' W., on the S. W. side of the estuary of the Plata, about 180 miles from its mouth; pop. 70,000. The river is here 35 miles broad, but so shallow towards the S. bank that large vessels have to unload by means of lighters in the outer roads, distant 8 miles from the port; while small vessels cannot approach nearer than the inner roads, distant about 2 miles: even open boats cannot be brought close to the beach, and have to land goods and passengers in rudely constructed carts. The Exports chiefly consist of ox-hides, with jerked beef and sheep's wool; the last has risen into importance only within these few years. In the year 1837, according to Sir Woodbine Parish (*Parish's Buenos Ayres*, p. 354), the exports were as follows:—Ox-hides, No. 823,635, value \$3,294,540; jerked beef, 178,877 quintals, value \$446,092; sheep's wool, 164,706 arrobas (of 25 lbs.), value \$329,412; silver, Spanish dollars, No. 258,743, marks, No. 4881; gold, 22,361 oz.; horse-hides, No. 25,367; horns, No. 434,456; horse-hair, 70,372 arrobas; nutria-skins, No. 51,863; tallow, 100,249 arrobas; sheep-skins, 56,188 dozens; flour, 14,069 fanegas; corn, 4150 fanegas; besides a variety of smaller articles, amounting altogether to 5,637,138 Spanish dollars, or about £1,127,427 sterling; to which Sir W. Parish thinks about 20 per cent. may be added on account of short manifests by the shippers. All these articles are exported to Europe except the jerked beef, which goes to Havanna and Brazil; the corn and flour to the last mentioned country; and a considerable portion of wool and sheep-skins, which are carried to the United States. The exports to Britain chiefly consist of hides, wool, nutria-skins, and tallow. Antwerp is the principal market on the continent of Europe for the hides of Buenos Ayres.

The Imports in 1837 amounted to about £1,400,000 sterling, of which those furnished by Great Britain constituted nearly one-half; the declared value of the produce and manufactures of the United Kingdom sent to the states of La Plata, including Monte Video, having been in that year £696,104; while on an average of the ten preceding years, 1827-1836, the amount was £556,000. The imports from Britain chiefly consist of cottons, especially plain and printed calicoes, which are now become of the first necessity to the lower orders; also of linen, woollen, and silk manufactures, ironmongery, cutlery, coarse and fine earthenware, glass, tea, foreign brandies, and wines: From France are imported articles of luxury rather than of necessity, such as superfine cloths and linens, merinos, cashmeres, silks and cambrics, lace, gloves, shoes, looking-glasses, combs, jewelry, and all sorts of made-up finery; the whole amounting in 1836 to £231,373: From Belgium, arms: From Holland, gin, butter, cheese, hams: From the Baltic States, iron, cordage, canvas, pitch, tar, and deals. The Mediterranean trade is principally in Sicilian and Spanish produce, especially the cheap wines of Sicily and Catalonia, of which from 10,000 to 12,000 pipes are taken yearly, brandies (1000 pipes), olive oil, macaroni, and dried fruits: in amount this trade is fully equal to that from France, or from the North of Europe. From the United States are brought flour, coarse unbleached cloths, spirits, soap, sperm candles, dried and salted provisions, tobacco, ordinary furniture, and deals, amounting yearly to about £140,000: From Brazil, tobacco, sugar, coffee, rice, and *yerba maté* or Paraguay tea: From Havanna, sugar, coffee, and tobacco. About 240 vessels enter the port of Buenos Ayres annually.

The Plata is navigable for ships to Assumption, the capital of Paraguay, about 1000 miles from mouth; and for small craft to the 18th degree of south latitude. From Paraguay immense quantities of *yerba mate* are brought to Buenos Ayres packed in hides, and distributed throughout Chili and Peru. These countries are besides partly supplied by Buenos Ayres with European manufactures.

Measures and Weights same as Spain.

Money.—The integer of account is the current *peso*, which is divided into 8 reals, each of 16 *marcos*, or 34 *maravedis*. The circulating medium is principally composed of government paper money, which, by its overissue, has depreciated the value of the current dollar to about 1 sterling. Some copper money is also in circulation. The silver dollar coined by the Argentine Republic was of the same weight and fineness as the Spanish hard dollar.

Finances.—These are in a deplorable condition owing to the late hostilities with Brazil and France. In 1836, the revenue was estimated at 12,000,000 currency, which was quite insufficient to meet the ordinary expenditure of the state. The amount of funded debt unredeemed (6

per cents.), in the same year was \$35,917,166 currency; besides, the English loan for £1,000,000 sterling, the interest on which (6 per cent.) has been unpaid since January 1828; and the amount of the bank issues in circulation, about \$20,000,000 currency. These accounts, though *ex facie* national, relate to the province of Buenos Ayres alone: the other provinces, containing 4ths of the population of the republic, contribute nothing towards the general expenses, though most of them manage to support their petty provincial administrations.

A Treaty of Commerce between Great Britain and the United Provinces of Rio de la Plata was executed on 2d February 1825: it was the first treaty entered into by any European power with the new republics of America.

The Plata was discovered by Juan Diaz de Solis, a Spaniard, in 1512; and in 1534 the country was conquered by Mendoza, who founded the city of Buenos Ayres. In 1778, the province of Buenos Ayres, which had hitherto been a dependency of the Spanish viceroyalty of Peru, was raised into a separate viceroyalty, which included the present States of Bolivia, Paraguay, Uruguay, and the Argentine Republic. In 1816, the states of the Argentine Republic declared their independence of Spain. Several revolutions have since taken place; and from March 1838 to October 1840 Buenos Ayres was blockaded by the French.

BUFF, a kind of leather generally prepared by dressing buffalo-skin with oil, after the manner of shammy. It is also made from the skins of other animals.

BUGLES, a species of glass beads, formed into small capillary pipes, broken into various lengths. They are imported in large quantities from the Levant. Duty is paid on about 40,000 lbs. annually, and a considerable quantity is likewise re-exported to Africa and Asia.

BUILDING SOCIETIES. [FRIENDLY SOCIETIES.]

BULLION, a term strictly applicable only to gold and silver in an uncoined state, but of late used commonly to denote the precious metals in general. No commodities being so permanent in their value, so uniform in their quality, and so easy of transport as gold and silver, these metals, besides their extensive use in the arts, have been employed from a very early age in the form of coin, as a measure of the value of other commodities; and their employment for this purpose is at present nearly universal.

The precious metals were in ancient times derived from a great variety of sources, but since the discovery of America they have been obtained principally from the Central and Southern part of that continent. According to Humboldt, the average annual supply procured thence from 1492 to 1500 was £52,083; from 1500 to 1545, £625,000; from 1545 to 1600, £2,291,666; from 1600 to 1700, £3,333,333; from 1700 to 1750, £4,687,500; from 1750 to 1803, £7,354,166; and at the commencement of the present century, £9,062,500.

The revolutionary tumults in the Spanish American colonies in 1810 led to so great a dilapidation of the mines, that their produce was lessened by one-half; the average annual supply from 1810 to 1830, according to Mr Jacob, being only £4,036,838. In 1825, a number of joint-stock companies were formed in Britain for the purpose of working the mines; but their operations were conducted with so little skill that for several years no observable increase took place on the annual supply of the precious metals; and though the case is now somewhat different, yet the prospect of the South American mines being rendered equally productive as before, is distant and uncertain.

Of late years new sources of supply as regards gold have been discovered in the United States and Russia. In the former gold was discovered in North Carolina in 1804, and afterwards in Georgia and other states; but the produce realized was trifling until 1830, when about £97,083 were minted, exclusive of an equal amount supposed to have been consumed or exported in an uncoined state. The produce has since been considerably increased; but well-informed persons are opposed to the opinion that any permanently extensive supply can ever be derived from that quarter. In Russia the case is different. The gold mines of that country, situated in the Uralian Mountains, yielded, in 1820, 1938 lbs. avoird.;

and their produce has since progressively increased. In 1835 it amounted to 10,620 lbs., value £845,165; and most accounts concur in representing the supply as likely to prove lasting as well as abundant. At present the total annual produce of America, Europe, and Asia may be estimated as follows:—

Country	Principal Localities		Gold.	Silver.	Total.
	Gold.	Silver.			
Mexico	Santa Fe de Bogota	San del Mon	100,000	2,000,000	2,100,000
Central America	Costa Rica	Honduras	12,000	20,000	32,000
Colombia	Cartagena	Medellin	275,000	5,000,000	5,275,000
Peru	Potosi, Huancayo	Pisco	20,000	400,000	420,000
Bolivia	Potosi, Muro	Potosi	40,000	800,000	840,000
Chili	Potosi	Copiapó	20,000	400,000	420,000
Brazil	Longo Suro	...	20,000	400,000	420,000
United States	N. Carolina, Georgia	Hungary, &c.	100,000	4,000,000	4,100,000
Europe	Transylvania, &c.	Alps	140,000	4,500,000	4,640,000
Asiatic Russia	Ural Mountains	...	400,000	1,700,000	2,100,000
Rest of Asia	Borneo, China	China	1,200,000	4,500,000	5,700,000
		Total	3,135,000	14,300,000	17,435,000

No notice is taken of Africa, as the former reports of its produce appear to have been grossly exaggerated; and it may now be well doubted whether the supply derived from that part of the world is more than equal to the consumption. The estimates for Mexico, Peru, Bolivia, Chili, United States, and Asiatic Russia, are founded on returns by the British consuls in those countries,—allowance being made for the quantities raised in Peru and Chili, and exported clandestinely. The estimates for the other countries are chiefly founded on statements made by Mr Jacob and Mr John Crawford. So much uncertainty, however, attends all calculations of this kind, that the preceding summary, and more especially the part which has reference to the portion of Asia not subject to Russia, is to be regarded merely as a loose approximation.

Vague as are all estimates regarding the production of the precious metals, those regarding their consumption are much more so, there being no data upon which to found any calculation of the proportions used for coin and in the arts, or of the supply obtained for these purposes by the fusion of old plate. Humboldt estimated the quantity of gold and silver annually consumed in Europe, exclusive of that used for coin, at £3,500,000. Mr Jacob's estimate, in 1830, of the amount applied to ornamental and luxurious purposes, was as follows:—Great Britain, £2,467,200; France, £1,200,000; Switzerland, £250,000; rest of Europe, £1,505,400; America, £200,650; total of Europe and America, £5,663,250; or, after deducting 1-40th for that supplied by the fusion of old plate, to £5,746,006. Adding 1-40th of this for Asia will make the total consumption of Europe, America, and Asia, exclusive of that used for coin, £6,095,207.

The quantity required to serve as coin depends upon a great variety of circumstances, — such as the wealth and population of the different countries of the world, the extent to which their currency has been economized by the use of paper-money, and by the art of banking, the waste of coins by abrasion, and their loss by accident, and by the practice, common in uncivilized countries, of burying treasure. Of these the most important as regards the consumption of the precious metals is the loss by abrasion. According to recent experiments at the mint, this appears to be upon British silver coin about 5s. and upon gold 1s. 3d. per cent. per annum; but on the general amount of coin throughout the world it cannot be reckoned at less than 5s. per cent. upon both,—the foreign silver-money being about four times that of gold in amount, and inferior in fineness to British silver. The whole amount of the precious metals in the world is estimated by Mr Senior at two thousand millions sterling. No estimate has been formed of the amount existing in the form of coin; but the annual loss by abrasion and otherwise can scarcely be assumed at less than £2,000,000. This, added to the amount used for other purposes, would raise the total annual consumption of gold and silver to £8,095,216, a sum nearly equal to the annual supply. It has to be observed, however, that Mr Jacob's estimate of the annual consumption for other purposes than coin is by many supposed to be greatly exaggerated: his allowance of only 1-40th for the fusion of old plate is also considered to be much too small.

The value of gold and silver, like that of all other commodities, is regulated by the amount of capital and labour required to bring them to market,—in other

words, by their cost of production. If this could be reduced, their value would fall, and the money value of other commodities would proportionally rise: if, on the other hand, their cost of production were to be augmented, their value would be increased, and the money value of other commodities would proportionally fall. Any fluctuation, therefore, on the value of gold or of silver, according as the one or the other has been adopted as the standard, is necessarily productive of a corresponding variation in bullion prices, and a proportionate derangement of all existing contracts. The influence of a reduced cost in obtaining the precious metals upon bullion prices, has been experienced since the discovery of America, where the mines have yielded those metals with so much less labour than the mines previously worked in the Old World, that gold and silver have fallen to one-third of their former value, and bullion prices have been raised to three times their former rate. This effect did not, however, take place at once, but gradually, and was not fully realized until about the close of last century.

The natural tendency of the defalcation in the produce of the Spanish American mines after 1810 was to reduce bullion prices; and by many persons the remarkable fall, which occurred in Europe after the close of the war, is in part attributed to this circumstance. It would appear, however, that this decline can be accounted for by increased facility of production, or by other causes affecting each particular commodity; "that no direct influence of the defalcation of the produce of the mines is to be traced in the late fall of prices; and that consequently the presumption must be, either that the mass of the metals is so large as to render what might otherwise appear to be considerable variations of supply, imperceptible in general prices, or that circumstances affecting their functions and distribution have counterbalanced these variations" (*Tooke on Prices*). Of the latter, perhaps the most important were the immense quantities of plate and hoarded treasure exported from South America to Europe by the loyalists and others during the civil dissensions, and the cessation of the drain of silver from Europe to China and India, and an inversion of the stream by an importation which is still taking place. It must be admitted, however, that, all other circumstances being the same, if the produce of the mines had not fallen off, prices would now be higher in some proportion to the larger supply of the metals.

Gold and silver are subject to fluctuation in their relative value towards each other as well as to other commodities. More labour and capital have always been requisite to bring a given quantity of gold to market than the same quantity of silver, and the value of the former has in consequence been always much greater than that of the latter; but the proportion in which gold has exceeded silver in value has varied at different times. Among the Romans gold to silver seldom varied more than from nine to eleven for one; nor did the relative value of the metals fluctuate more down to the time when the Spanish American mines were brought into full activity. Since that period the comparative value of the two kinds of metal has been gradually changed, and gold is now become rather more than 15½ times as valuable as silver.

Gold is the standard of value in this country, and it is regularly purchased by the Bank of England at the rate of £3 : 17 : 9, and issued at the rate of £3 : 17 : 10½ per ounce of 22 carats (11-12ths) fine; its price may therefore be regarded as fixed. Silver, however, though the standard of value in most foreign countries, is here used merely as a subsidiary currency, and its price is therefore regulated by the state of the exchange. For some years past it has varied little from 5s. per ounce of the fineness of 11 oz. 2 dwts. (37-40ths). Gold bullion occurs chiefly in the form of bars or doubloons, silver bullion in that of bars or dollars. The bullion trade of the United Kingdom is almost wholly confined to the Bank of England and a few private merchants in London.

Bullion is chiefly imported by the government packets and ships of war, the charges attending which are detailed in the Navy List.

The exportation and importation of bullion in this country is free; and by 3 & 4 Wm. IV. c. 52, § 2, it may be landed without report entry or warrant. [COIN. EXCHANGE.]

BULRUSH, a plant (*Scirpus lacustris*) much used for putting between the staves of barrels, and for chair-bottoms and matting. It is imported from Russia and Holland; but it might be profitably grown in marshes in this country where the soil is not very peaty, and of rather superior quality; particularly on the banks of rivers which are flooded by fresh water tides.

A load of bulrushes consists of 63 bundles.

BUOYS (Fr. *Bouées*. Ger. *Ankerboyen*. It. *Gavitelli*. Sp. *Boyas*) are floating

pieces of wood or cork moored to some certain spot, in order to point out the course that a vessel should follow ; they are also used to mark the situation of ships' anchors,—the former being denominated public, the latter private buoys. The public buoys on the English coasts are under the control and management of the Trinity House, Deptford-Strond; and those of Scotland and Ireland are under its supervision (6 & 7 Wm. IV. c. 79). Small tonnage duties are charged on the shipping for the maintenance and repair of the public buoys. [LIGHTHOUSE.]

“ Every person who shall ride by, make fast to, or remove, or wilfully run down, or run foul, of any vessel placed to exhibit lights, or any buoy or beacon, belonging to, or placed by, any corporation, or society, having lawful authority to place the same, shall, besides being liable to the expense of replacing or making good any damage occasioned thereby, forfeit for every such offence any sum not exceeding £50, nor less than £10.” (6 Geo. IV. c. 125.)

Private buoys are protected by the act 1 & 2 Geo. IV. c. 75.

BURDOCK, or **CLIT-BUR**, a biennial indigenous plant, common in uncultivated places, the roots of which being esteemed aperient, diuretic, and sudorific, are used in medicine. The roots are collected in spring, and lose four-fifths of their weight by drying.

BURGUNDY PITCH, the resin of the spruce fir (*Pinus abies*), is usually in softish masses of an aromatic odour, and a pale yellowish brown colour, often intermixed with white streaks, and occasionally in rounded masses, or tears, which have spontaneously exuded from and dried upon the trees. This resin is likewise obtained by incision of the bark; the different portions, being collected, are dissolved in boiling water, and cleansed by pressing through canvass cloths. Burgundy pitch is imported from Saxony and the north of Europe. Its only use is as an ingredient in some plasters. Price in bond, 18s. to 25s. per cwt.

Common or spurious Burgundy pitch manufactured in this country is detected chiefly by deficiency in the peculiar odour and viscosity of the genuine resin.

BUSHEL, a British measure of capacity used for seeds, corn, and other dry goods ; it is equivalent to 4 pecks, 8 gallons, or to one-eighth of a quarter. The Imp. bushel measures 2218·192 cubic inches, or 36·348 French litres ; and the Winchester, or old English standard corn bushel (still employed in the United States and elsewhere), measures 2150·42 cubic inches, or 35·237 litres ; hence 33 Winchester bushels equal 32 Imperial nearly. The bushel, heaped measure, formerly used for coals, lime, fish, potatoes, and other commodities, contained 2217·6 cubic inches ; but when heaped in the form of a cone above the brim, 2815½.

Besides the Winchester bushel, a variety of other bushels were in use in different parts of England for corn ; these differed greatly in size ; thus, the Herefordshire bushel contained 10 gallons, the Berkshire bushel 9 gallons, and the Cornwall bushel 24 gallons. In some parts of the north of England, 6 bushels were termed a boll ; in others, this denomination was applied to a smaller number of bushels. A detailed account of all these local measures will be found in the Second Report of the Parliamentary Commissioners on Weights and Measures.

BUSS, a cutter-built vessel, in size varying from 50 to 80 tons, employed in the Scotch and Dutch herring fishery.

BUTT, a liquid measure in the old English system. The ale or beer butt contained 108 ale gallons ; the wine butt 126 wine gallons. The standard gauge of the butt of sherry is now 108 Imp. galls.

BUTTER (Dan. *Smör*. Du. *Boter*. Fr. *Beurre*. Ger. *Butter*. It. *Burra*. Por. *Manteiga*. Sp. *Manteica*), a substance derived from the oily or creamy part of milk by agitation or churning. It may be obtained either by separating the cream from the milk and then churning it, or by churning the milk and cream together. By the first method the best butter is obtained, by the second the largest quantity. The quality also depends materially on the care with which it is made, and on the nature of the pasture ; the best is made from cows fed on rich natural meadows. Butter is extensively made and consumed both in a fresh and salted state in almost all the countries of northern Europe ; and in the East it is largely used in the liquid form, called **GHEE**. The butter of Holland is accounted the best, a pre-eminence which it owes chiefly to the remarkable attention paid by the Dutch to the minutiae of the dairy, to the purity of the salt used, and especially to cleanliness. The English butter is scarcely inferior, especially that of Epping, Cambridgeshire, Suffolk, Yorkshire, Somerset, Gloucestershire, and Oxfordshire. The best Scottish is that of Clydesdale and Aberdeenshire. The butter produced in Britain is however insufficient for the consumption, and large quantities are imported, particularly from Ireland, where it forms a staple.

The principal dairy counties of Ireland are Carlow, Cork, Fermanagh, Kerry, Leitrim, Longford, Sligo, Waterford, and Westmeath. “ Carlow has the reputation of producing the best butter ; but the firkins containing that which is manufactured in all the surrounding counties are

ended with the name of Carlow. It is highly esteemed in London, and is often sold for the butter; but much of the Irish butter is very salt, and sometimes smoky and tallowy. There are three distinct sorts of butter in the Irish market. The best is sent to Dublin and England; and from the latter country exported to the East and West Indies. An inferior is a market in Spain; and an inferior still used to be sent to Boulogne" (*Yowall on* . 188). Brazil now takes annually about 30,000 firkins Irish butter.

Quantity imported into Britain from Ireland was, in 1825, 425,670 cwts. No general account of the importations from that country has been kept since that year; but there cannot be a doubt that it has very greatly increased,—probably nearly doubled. In 1838, the declared value of butter and cheese exported was £280,660, of which to West Indies, £108,114; Brazil, £106,221; and to other places, £18,025. In 1838, the quantity of butter imported was 256,193 cwts.; whereof from France, 164,314 cwts.; Germany, 74,916 cwts.; Denmark, 14,446 cwts. The importations are increasing.

Act 36 Geo. III. c. 86, requires that butter shall be packed and delivered by dealers in a firkin (exclusive of tare), in a firkin of 56 lbs., or in a half-firkin of 28 lbs.; and each sort must be packed separately and salted with small fine salt, and of that no more than is necessary for its preservation. The makers of the casks and the dealers in the butter are to have their names branded on the casks, and the tare or weight of the casks, under penalties; but this does not extend to butter packed in quantities not exceeding 14 lbs. The shipping of cheese and butter to the London market is regulated by 4 & 5 Wm. and Mary, c. 7; and the butter trade of other parts of York, and of other places, is regulated by numerous local acts.

Foreign butter is not to be delivered as grease until after it has been mixed with tar by the customs-house officer. (*B. O. Feb. 3, 1832.*)

BUTTER-NUTS are the berries of a large tree (*Caryocar tomentosum*) which grows in Guiana, and is called by the natives Tata-Youba. They are covered by a thin skin two or three lines thick, and consist internally of a buttery yellowish substance, which melts between the fingers, and is sometimes used in cooking instead of common butter. Under the skin lies a stone, within which is a brownish oval-shaped kernel, very good to eat, and commonly served at table. Butter-nuts are common in the London markets.

BUTTONS (Fr. *Boutons*. Ger. *Knöpfe*. It. *Bottoni*. Por. *Botoens*. Sp. *Botones*). An article is made of an endless variety of materials. In former times it was made of an endless variety of shapes; but at present these may be reduced to three, viz. buttons with shanks; buttons without shanks; buttons on rings or wire shanks; and buttons covered with cloth or other material. Metal buttons are manufactured on a large scale at Birmingham, both for home consumption and exportation. Except where the taste of foreign countries demands otherwise, buttons are at present generally made with a well gilt and highly ornamented surface.

In the reign of George I. several absurd acts were passed to regulate the wearing of buttons to be worn; but these, though still on the statute-book, have been long in disuse. The act 36 Geo. III. c. 6, imposes penalties on the manufacture and sale of buttons marked "gilt" or "plated," and not so gilt or plated in conformity with the act.

C.

CABBAGE, a well-known culinary vegetable (*Brassica oleracea*), of which there are almost innumerable varieties. Those most valued for the garden are generally divided into the close-heading and the spreading; the most common of the former being the York and the Savoy, and of the latter coleworts and Scotch cabbages.

The larger and grosser kinds are sometimes cultivated as food for stock. According to Arthur Young, the average crop on a dry soil is 36 tons per acre; and on a sandy soil, only 18 tons. In Germany, immense quantities of the large cabbage are manufactured into "that excellent preparation" *sauer kraut*, the article of considerable trade in that country.

CABBAGE-WOOD is obtained from the cabbage-palm (*Areca oleracea*), a tree which grows in abundance in the mountainous parts of the West Indies, and is known to all who have read the popular tale of Paul and Virginia. The wood is sometimes used in ornamental furniture; but it does not answer very well, as the fibres are too hard, and the medullary part too soft for holding glue; and its surface is also very difficult to polish, and cannot be preserved without varnish.

The trunk, after the centre part is rotted out, forms a durable water-pipe. **3/4 INCH CABLE**, a long thick rope, employed in the mooring or anchoring of ships. There are generally at least three kept ready for service, namely, the sheet cable, the bower cable, and the small bower cable, which are each commonly 100 or 120 fathoms in length. Cables are now also formed of iron chains, which are much stronger and more durable than those of hemp. On a rocky bottom, a hempen cable is destroyed in a very short time, while the duration of the other is almost

indefinite. It is sometimes desirable to cut the cable when of hemp ; this contingency is provided for in iron cables by a bolt and shackle at short distances, so that by striking out the bolt the cable is easily detached. At present, hempen cables are in very little request in the British navy, and even in the merchant service iron has nearly supplanted hemp for this purpose. The regulations of Lloyd's require all vessels under 150 tons to have at least 150 fathoms of chain ; of 150 and under 250 tons, 180 do. ; of 250 and under 350 tons, 200 do. ; of 350 and under 500 tons, 240 do. ; of 500 and under 700 tons, 270 do. ; of 700 tons and upwards, 300 do. ; but in all cases where hempen cables are used, then one-sixth more in length is required. [CORDAGE.]

Cable's-length in navigation signifies 120 fathoms, the usual length of a cable.

CACAO, or **COCOA** (Fr. Sp. Por. & It. *Cacao*. Ger. *Kakao*), is the bruised seeds or nuts of the cacao or chocolate tree (*Theobroma cacao*). The seeds are oval, about as large as an olive, and covered with a violet or ash-gray skin which encloses two cotyledons of a fatty nature, and of a brownish-black or violet colour. When simply bruised they constitute the cacao of the shops ; reduced to a paste, mixed with sugar, and flavoured with vanilla, they become chocolate. They are imported from the West Indies, Venezuela, Ecuador, and Brazil, in all which places the tree grows wild, or is cultivated for the sake of its seeds. Dr Ainslie states that the cacao is now also much cultivated in the Philippine islands, and that the chocolate made from the nuts, particularly in Zebu, is esteemed even superior to that of Guayaquil in America. Cacao is considered somewhat less nutritive, but much lighter than chocolate. The quantity consumed in the United Kingdom has greatly increased since 1832, when the duty was reduced from 6d. to 2d. per lb. At present from 3,000,000 to 4,000,000 lbs. are annually imported ; of which about 1,600,000 lbs. are entered for home consumption ; the remainder being re-exported chiefly to Germany, Holland, Belgium, Spain, and Italy.

CADMIUM, a rare metal discovered in 1817, by Stromeyer, in an oxide of zinc (*Annals of Philosophy*, vol. xiv.). In colour and lustre it has a strong resemblance to tin, but is somewhat harder and more tenacious. It is very ductile and malleable. Sp. gr. 8.604. The sulphuret of cadmium has an orange-yellow colour, and would form a useful pigment, could the metal be found in greater abundance.

CAFFISO, an Italian oil measure, equal in Malta to 4½ Imp. gallons, and in Messina and Trieste to 2½ Imp. gallons.

CAHIZ, a Spanish corn measure, equivalent in Alicant to 6½, in Aragon to 5, and in Valencia to 5½ Imp. bushels ; but the standard Avila cahiz of 12 fanegas, used in Cadiz and other places, is equal to 18½ Imp. bushels.

CAIRNGORM, a name given by lapidaries to an ornamental stone found on the mountain of that name in Inverness-shire. It is a splendid quartz, of various shades and nearly transparent.

CAJEPUT OIL, a valuable volatile oil, limpid, transparent, of a greenish colour, a camphoraceous smell, and an acridly aromatic taste. Sp. gr. 0.927. It is sometimes adulterated with other oils, particularly oil of turpentine. It is prepared in large quantities in the Dutch settlements on the Banda and Molucca islands, from the leaves of the *Melaleuca cajeputi*, and is imported into this country, by way of Holland, in copper flasks. It is used internally as a stimulant and antispasmodic, but more frequently externally as an embrocation.

CALABASH (Sp. *Calabaza*), a name given in the West Indies to a gourd or pompion, the fruit of the *Crescentia cujete*, the shells of which are used by the natives for cups, measures, kettles, and other vessels.

CALAMANCO, a woollen fabric, chiefly manufactured in the Netherlands. It is made plain, coloured, striped, or watered ; and the warp is sometimes mixed with silk or goats' hair.

CALAMANDER WOOD, a beautiful fancy wood obtained from a tree which grows in Ceylon. It is extremely hard, and finely veined with different shades of black and brown. Being scarce and very dear, little is imported.

CALAMINE, a native carbonate of ZINC.

CALCEDONY, an ornamental stone, a species of agate of a uniform colour, generally of a milky white or pale yellow, like turbid jelly, often with an internal wavy structure in the form of stalactites, and very commonly with a peculiar mammillary surface. It is found in abundance in the Faroe islands, in Iceland, in Cornwall, and many places of Britain as well as other countries ; sometimes in large masses from which cups and other vessels are formed.

CALCIUM, the metallic base of LIME.

JENDAR. [MEASURES AND DIVISIONS OF TIME.]

ICO (Fr. *Coton*. Ger. *Kattun*. It. *Tela Bambagina*. Por. *Pano de Al-Sp. Tela de Algodon*), white, or plain cotton cloth. [COTTON MANUFACTURE.]

OMEL, the protochloride of MERCURY.

JUMBO ROOT (Fr. *Racine de Calumbo*. Por. *Raiz de Calumba*. Ger. *das wurzel*. Mozamb. *Kalumb*). The calumbo plant (*Cocculus palmatus*) is found in Malabar, and in the thick forests on the eastern coast of Africa, in Oibo and Mozambo, from which last place the roots form a staple export to Ceylon, and thence to Europe. Calumbo root is generally brought in in large sections, from half an inch to three inches diameter, rarely divided; and the bark is of a dark brown colour outside, and bright yellow within. It is very subject to decay by worms; when good it looks bright and solid, breaks with a starchy fracture, and has a faint aromatic odour, and bitter taste.

The root of a Carolina plant (*Frasera waltera*) is imported into Liverpool, and is sometimes fraudulently substituted for Calumbo. The American root may be distinguished by its whiter colour, lighter texture, the mixture of longitudinal pieces, the taste being at first sweetish, and not nearly so bitter as the genuine root. The substance of the tree is besides rendered blue by iodine, the false, brown. Calumbo root is used in medicine. (*Ainslie's Mat. Indica. Duncan's Dispensatory*.)

MBRIC (Fr. *Batiste*. Ger. *Kammertuch*. It. *Cambraja*. Por. *Cambraia*. Sp. *rasa*), a very fine linen fabric, so called from having been originally manufactured at Cambray, a city in the department Du Nord in France.

MEL (Arab. *Djemat*), a ruminating quadruped, of a grotesque form, which has been used from a remote period in eastern countries as the principal beast of burden. There are two species: The Bactrian camel (*Camelus Bactrianus*), characterized by a couple of humps—one on the rump, and another above the shoulders, employed in Thibet, Turkistan, Tartary, Southern Russia, and in the Pisan valley in Tuscany; the dromedary (*Camelus dromedarius*), with one hump raised on the middle of the back, is indigenous in Arabia, from whence it has spread over the north of Africa, Syria, and Persia; and the intermixture of these species has produced varieties which are more or less used in different localities. The camel is esteemed by eastern nations one of the most precious gifts of Providence to man; and assuredly, it seems formed by nature for a life of patient drudgery.

Justly has the Arab named it the Living Ship of the Desert, as without it he could neither transport himself nor his merchandise across those oceans of sand which his country is covered. Its spreading cushioned feet, formed to tread lightly upon the dry and shifting soil—the nostrils so formed that it can close them well to exclude the drift sand of the parching simoom—the powerful upper lip for assisting in the division of the tough prickly shrubs and dry stunted herbage of the desert—and above all, the cellular structure of the stomach, which is capable of being converted into an assemblage of watertanks,—bear ample testimony to the care manifested in the structure of this extraordinary quadruped. The camel is weaned at the commencement of the second year, and begins to propagate at four years old, though it does not complete its full growth until the age of six years. It will live as long as forty years; but after twenty-five or thirty its age begins to fail. Camels are content with the coarsest food—a bunch of dry grass or the stunted shrubs of the wilderness. Their ordinary food is a ball of paste (*bouk*), weighing about a pound, made of barley meal and water, which each camel receives in the evening; and this is all the daily expense of these useful creatures. The value of the camel depends of course on its kind and quality. In Hejaz, Khardt states the price of a good one to be £14, but they sometimes cost as much as £70 has been paid for one of the Oman breed.

Camels are used both for riding and carriage, for which purposes they are employed in large numbers in the Eastern caravans. [CARAVAN.] The first thing that an Arab examines about his camel, when preparing for a long journey, is the hump, which is an infallible criterion as to the ability for exertion; for whenever it subsides the beast gradually yields to fatigue. A long journey will cause the hump almost entirely to disappear: it is easily restored, however, by a few weeks of good nourishment and repose. The favourite pace of the riding camel is a kind of amble at the rate of 5 or 5½ miles an hour. Many fabulous stories are related of the swiftness of this animal, but it never approaches even for short distances to that of a good horse, though it is perhaps unrivalled for the ease with which it will sustain an uninterrupted journey of several days and nights if allowed its own pace, and not employed on hilly, woody, or slippery ground. The load of a riding camel in common cases is from 400 to 500 lbs. for a short journey, and

from 300 to 400 lbs. for one of any considerable distance. The capability of bearing thirst varies among the different races. In the caravans from Darfur they travel nine or ten days without water ; but the Anatolian camel requires drink every second day.

CAMEL-HAIR (Fr. *Poil de chameau*. Ger. *Kameelhaar*. It. *Pelo di camello*), is imported into the United Kingdom from the Levant, principally for the manufacture of pencils for the painter. That produced in Persia is held in the highest estimation. The black hair is most valued, next the red, and the gray brings only half the price of the red. In the East camel-hair is woven into clothing and even tents, purposes to which it has been applied from a remote period.

CAMLET (Fr. *Camelot*. Ger. *Kamelot*. It. *Ciambello*) was originally a rough fabric made of the hair of the camel and the goat interwoven, which was used by ascetics. That of the East is made of the hair of the Angora goat. English camlet, however, is a light stuff made of long wool hard spun, sometimes mixed in the loom with cotton or linen yarn.

CAMPHOR (Du. *Kamfer*. Fr. *Canfre*. Ger. *Kampfer*. It. & Por. *Canfora*. Sp. *Canfor*. Arab. & Pers. *Kafoor*), a peculiar vegetable principle arising from the separation of the volatile oil of different trees, which is used in medicine and the arts. Two kinds are distinguished in commerce :—

China or Java Camphor, the only kind met with in Europe, is the product of the *Cinnamomum camphora* (Nees Von Esenbeck), found in Quang-tung and Fokien in China, in Cochin China, and in Japan. It is extracted from all parts of the tree, but chiefly from the roots, and is obtained in the state called *crude camphor* merely by sublimation. In this state it is generally imported, and is afterwards refined by mixture with lime and a second sublimation. Crude camphor occurs in small brownish or gray grains mixed with impurities. Refined camphor is a very white, soft, semitransparent substance, having a crystalline appearance, a strong and fragrant odour, and a hot pungent taste ; very inflammable, and so volatile as totally to exhale when left exposed in a warm air. Sp. gr. 0·985 : it occurs in round cakes, each weighing about 2 lbs., and is commonly packed in vessels containing nearly 250 cakes. The quantity of camphor exported from Canton varies much from year to year. In the United Kingdom about 650 cwts. are annually entered for home consumption.

Malay or Baroos Camphor is found in great purity concreted among the woody fibres of the *Dryobalanops camphora*, growing in Borneo, Sumatra, and the Malayan Archipelago. As an article of commerce it is found exclusively in the East, and particularly at Canton, where it fetches a price equal to about 100 times that of the article made from their own *C. camphora*. The former is far more fragrant than the latter, but whether it possesses any superior virtues is exceedingly doubtful.

CAMPHOR-OIL is a limpid fluid which exudes from the *Dryobalanops camphora*. It is much used in some parts of the East, but is not brought to Europe. It is as agreeable as the concrete substance, and almost as cheap as spirits of turpentine. If by any contrivance it could in Britain be reduced to a concrete state, as has lately been done with the oil of the cocoa-nut, the produce might be advantageously exported to China, and perhaps retained in part for home consumption.

CAM-WOOD, a red dye-wood of a very fine colour, obtained from a tree principally found in the neighbourhood of Sierra Leone. It is chiefly used in turnery for knife handles and similar articles. About 1000 tons are annually entered for home consumption.

CANADA BALSAM, a fine species of turpentine, obtained from the *Pinus Balsamea*.

CANADA, the most important portion of British America, lies nearly all between the Hudson's Bay Territories and the United States, and, within the basin of the river St Lawrence, from about 42° to 52° N. lat. It was colonized by the French in 1608, and conquered by the British in 1759. There are two provinces, separated by the Ottawa river :—*Lower Canada*, adjoining the estuary of the St Lawrence ; area, 250,000 square miles ; pop. (1836) 664,631, chiefly of French origin ; capital, Quebec, pop. 30,000. *Upper Canada*, contiguous to the great lakes Ontario, Erie, Huron, and Superior ; area, 105,000 square miles ; pop. 371,332, chiefly of British origin ; capital, Toronto, pop. 9765. Each province had formerly a governor, executive and legislative councils, and a house of representatives,—the governor of the lower province being likewise captain-general of all British America ; but, by the act 3 & 4 Vict. c. 35 (1840, July 23) of the Imperial Parliament, the two provinces have been united.

a, though in some parts hilly, is upon the whole a level and well-watered country. The portions are mostly confined to the banks of the St Lawrence, the lower part of the Ottawa, margin of the Lakes Ontario and Erie, and the S. E. banks of lakes Huron and St Clair, are generally fertile. Beyond these districts, the country, more especially towards the N. is very imperfectly known. The climate is salubrious, and heat and cold, though felt in extremes, are not oppressive, owing to the purity of the atmosphere. In the lower province, sum of cold in winter is about 15° Fahr., its maximum about —20°; and the medium summer from 75° to 80°, its maximum 103°. Early in December the St Lawrence is closed by ice, seldom totally disappears before the first week in May. The five months from May to October, inclusive, comprise the spring, summer, and autumn of the Lower Canadian year. In Montreal, and in the Upper Province, the spring commences from six weeks to two months according to its latitude, and the climate is in every respect milder; indeed, in the W. Upper Canada, the duration of frost and snow is not more than half, or even one-third, as in Quebec. The severity of the Canadian winter is much less unfavourable to the operations of agriculture than might at first appear. The snow effectually prevents the frost from sinking deeply into the earth, and the rapid progress of the spring thaws, followed by frosty pulverizes the soil, and helps to prepare it for seed. Against the severity of the winter, we set down the steady weather which prevails during summer in both provinces, and renders the progress of vegetation so rapid, that the Canadian harvest is early, and almost secured before bad weather commences. Hence the climate of Canada, severe though it seems no obstacle to the unlimited extension of almost every description of produce, except as is peculiar to a tropical climate.

Canadians are scattered over a vast extent of country, some parts of which are 800 or 900 distant from the port of Quebec, and 600 or 700 from that of Montreal. But owing to the facility of communication by means of lakes and rivers, the expense of transport is comparatively small, and, from the improvements which are taking place in railroads and canals, this expense can be greatly reduced. The St Lawrence is navigable for large ships to Montreal, about 160 miles, and to Quebec, 420 miles, for ships of the line; above Montreal, its current is broken by rapids. The Ottawa and Saguenay, the principal tributaries of the St Lawrence, are only slightly navigable, having their course likewise interrupted by falls and rapids. The principal canals are the Grenville and Rideau canals, which, in connexion with the river Ottawa and the St Lawrence canal, form a vast chain of internal navigation, reaching by a circuitous line from Montreal to Kingston. The Welland canal, a most important work, connects lakes Ontario and Erie, avoiding the Falls of Niagara. Besides these there are various smaller canals and railroads, both in the Upper and Lower Provinces.

The cultivation of the soil is the principal occupation of the people; a circumstance which almost naturally follows from the abundance of rich land and the total absence of taxes; for these more than compensate the high price of labour. The chief agricultural product is wheat, the crop of which is estimated at 11,000,000 bushels. The average export of wheat and flour by sea, in the four years 1832-1835, was equivalent to 780,000 bushels, besides which, a considerable quantity from the Upper Province found its way to the United States; but in 1836 the export was much smaller; amounting only to 18,125 barrels flour, and 9716 bushels wheat. The variety of other articles of agricultural produce has been hitherto inconsiderable; the most important are flax, tobacco, and salted provisions.

The staple exports of the colony, however, are timber and ashes. The former is the principal article, but as a portion of the trade is the result of a legislative monopoly arising out of the duties in the United Kingdom on foreign European timber, with low duties on Canadian, the monopoly can last only as long as the monopoly is maintained. The chief articles of timber exported to the United Kingdom and the colonies in 1836, were,—oak, 22,805 tons; elm, 18,733 tons; pine, 315,967 tons; 6,747,278 staves, chiefly puncheon and standard pieces; deals, deal-ends, and boards, and planks, 2,785,520 pieces; besides ash and birch timber, hoops, handspikes, and other articles; the whole amounting in value to £703,165. Besides the timber carried by sea to the United Kingdom and West Indies, there is a considerable quantity of boards, scantling, and sawn timber, prepared for the United States and for home consumption. The timber-trade in Canada with the West Indies and the United States, as it exists without protection, cannot be affected by any change of the duties. On the other hand, the advantage which the colony now derives from the mother-country may be destroyed by the removal of those restrictions by which the trade was originally created, and which is at present contemplated. It would exceed the limits of the present article to describe the effects which are likely to result from this change. The prevailing opinion is, that Canada has other means of employing her labour and capital independent of the trade with the mother-country, and that the change will be beneficial not only to the mother-country, but to the colony. The clearing of the land from wood to fit it for cultivation, gives rise to the production of wood-ashes. The usual course is to burn the timber on the ground, and if the price be moderating, the wood ashes are converted into the ashes of commerce. If, however, the rate be rising, they are harrowed in for the improvement of the soil. The quantity shipped is annually about 36,000 barrels, consisting of about two-thirds pot and one-third pearl ashes. Of late years this trade has been on the decline.

The fisheries of Canada form a subordinate branch of industry; but still the gulf and lower portions of the St Lawrence furnish a considerable quantity of fish and oil for home consumption, and leave a small surplus for export. The produce of the fisheries in the county of Gaspé and the adjacent islands in 1836, consisted of—cod, 100,542 cwts.; cod oil, 37,162 gallons; whale oil, 1,200 gallons, besides salmon and other fish, the whole amounting in value to £86,624. Montreal was formerly the emporium of a very considerable portion of the fur trade, which was carried on by two rival companies,—the Hudson's Bay and the North-west. After the failure of the latter association, most of the skins were carried direct to the residents at Hudson's Bay, where an establishment also at La Chino, near Montreal. But although not a single bale of furs is shipped from that city, we should be justified in ranking the fur-trade among the resources of Canada, because a large importation of British goods takes place through Montreal, and wages are paid to the hunters by drafts on the company in London. There is, however, a small though increasing exportation of this article from Montreal, consisting chiefly of skins of the muskrat, beaver, and otter.

Of manufactures, the principal is that of ashes, already noticed. The others are as follow:—Cloth, a kind of gray homespun or *étouffe du pays*, worn by the *habitant* or farmer of Lower Canada; coarse cotton, but only in small quantities; coarse linens; carpets and mats formed of threads obtained from old materials; straw hats; worsted stockings and socks; caps; leather mittens; iron wares at St Maurice; nails; maple sugar; bricks; while soap, candles, leather, linned-oil and cake are manufactured to an extent sufficient to furnish a surplus for exportation. Whisky is largely produced in both the Canadas. Starch, blue, cider, cordage, paper, and a few other articles are also made, but in very small quantities. It is to be observed that these manufactures, with the exception of whisky, exist almost wholly without protection. But the domestic manufactures are supported more by the habits of the people than by cheapness; in fact the *étouffe du pays* is imitated in Britain at a much lower price than the Canadian cloth usually sells at in the native market.

Shipbuilding is an important employment in all the N. American colonies. The average number of vessels built annually in Canada, during the 11 years ending 1835, was 26, and their tonnage 8249. These ships are built of oak, and are of much better workmanship than those of New Brunswick and Nova Scotia, which for the most part are constructed of pine.

The imports chiefly consist of British manufactures, principally cottons and woollens; in 1836 the former amounted in value to £472,892 sterling, the latter to £303,166. The woollens are mostly of the coarser and warmer sorts, such as blankets, flushings, flannels, and the coarse cloths produced in the manufacturing towns of Yorkshire. The cottons are chiefly power-loom shirtings, striped and checked cloths, printed calicoes, gingham, muslins, cambrics, and also fustians, velveteens, and similar fabrics. The other articles of British produce or manufacture imported in 1836 were as follow:—Hardware, value, £74,249; wrought iron, £56,298; unwrought iron, £35,345; linens, £61,082; silks, £59,488; British refined sugar, £49,628; glass, £34,069; haberdashery, £71,646; earthenware, £15,606; apparel and slops, £33,975; painters' colours, £17,426; besides coals, leather, books, candles, soap, stationery, salt, lead, cordage, hats, and a variety of other goods.

The other imports are principally composed of the following articles:—tea, about 680,000 lbs., brought chiefly from Britain; raw sugar, about 3,000,000 lbs. (maple sugar being extensively grown in the colony); rum, 330,000 galls.; brandy and gin, 220,000 galls.; wine, nearly 360 pipes, namely, port, 500; madeira, 200; sherry, 200; Tenerife and other low white wines, 700; Spanish and other low red wines, 1600; French and German, 300. London enjoys the chief part of this trade to Canada, as there is a discriminating duty of £7. 7s. per tun of 252 galls. on wines "direct from the place of growth." A considerable quantity of low white and red wines is also brought from the Mediterranean, after having been landed at Gibraltar; an expedient by which the high duty is evaded. The West India produce is for the most part imported direct from the place of growth, and chiefly from Grenada, Jamaica, and Demerara. Halifax in Nova Scotia has recently become an entrepôt for exchanging the productions of Canada and the West Indies; the former paying for her purchases in flour and other provisions. St John's in Newfoundland also enjoys a small inter-colonial trade.

The inland trade with the United States is considerable. A portion of the ashes, flour and other provisions consumed in Canada, are derived from thence. In early spring, teas, coffee, fruits, tobacco, and various groceries, are imported from New York by the way of Lake Champlain. The exports at St John's, on that lake, the chief seat of this trade, amounted, in 1832, to £8197; the imports to £146,807. In 1833, the former were £20,500, the latter £104,508. Of the imports fully two-thirds consisted of agricultural produce, all, it is said, required for Canadian consumption. An intercourse with the United States is also carried on from different points in Upper Canada, the duties on which amounted, in 1835, to above £10,000. Of this there were paid at Toronto, £3750; Kingston, £1517; Burlington, £1438; Port Stanley, £835; Brockville, £549. When commodities are exported on American account, the transmission of a bill of exchange on New York easily closes the transaction. Shipments are also made to the West Indies from that city, as well as some of the more southern towns, by order of Canadian houses. These are usually paid for by drafts on London.

The total imports into Lower Canada in 1836 amounted in value to £1,941,053 sterling; and the exports to £1,034,514 sterling. These sums, however, do not include the extensive illicit trade which is carried on with the United States. The chief ports of the colony are Quebec and Montreal, both being warehousing ports, and the former a "free port" under the act 3 & 4 Wm. IV. c. 59.

Quebec is a strongly fortified city on the north bank of the St Lawrence, in 46° 49' N. 71° 16' W. It is divided into two parts; the Lower Town, where are all the commercial establishments, is situated immediately under Cape Diamond, nearly on a level with the water; the Upper Town is on a rock 200 feet above; and the communication with the lower town is maintained by a winding street, at the top of which is a fortified gate. The basin of Quebec is very spacious, being sufficient to contain 100 sail of the line. In 1836, 1146 ships entered this port, having a tonnage of 344,206; of which Great Britain, 880 ships, 291,235 tons; British colonies, 174 ships, 22,393 tons; United States, 50 ships, 19,619 tons; foreign states, 42 ships, 10,959 tons.

Montreal, in 45° 30' N. 73° 30' W., lies about 180 miles above Quebec, on the south side of the island of Montreal, which is formed by the confluence of the St Lawrence and the Ottawa; pop. 35,000. Vessels of 600 tons come up to it. The harbour is not large, but is always secure; the greatest disadvantage is the rapid of St Mary, about a mile below the town. Montreal is the commercial capital of Canada, being favourably situated for the lumber trade, and for intercourse with the Upper Province and the United States. Most of the business, even in Quebec, is carried on by branches from its mercantile houses. In 1836, there entered this port 98 ships, 22,289 tons; of which Great Britain 73 ships, 19,410 tons; British colonies 23 ships, 2392 tons; foreign states, 2 ships, 487 tons.

MEASURES, WEIGHTS, MONEY, DUTIES, &c.

Measures and Weights are those of Great Britain, but with the old English measures of capacity. The *minot*, sometimes used in Lower Canada, is an old French measure, 90 of which are commonly estimated at 100 English or Winchester bushels, although the true proportion is 99 to 98.

Money and Exchanges.—Accounts are kept

coins and payments are made in pounds, shillings and pence. *Malaya* currency, which is at 10 per cent. inferior to British though denominations and proportions are the same, a pound currency is four Spanish dollars, a dollar being called *do*. But the average rate of the dollar in the London market is only 48s. hence 4s. 8d. sterling = 1s. currency, or 48s. sterling = £1 currency, or £100 sterling = £100 currency. The comparison of exchange is, however, complicated by the assumption of a par departing widely from the value of currency. This erroneous par is 4s. 8d. taken as value of the dollar, or £10 sterling equals to 100 currency, the rate being said to result from the difficulty of obtaining currency. To make up the difference between the erroneous par and the average rate of the currency, — say the approximate par 48s. sterling to make use of a nominal premium of exchange. Thus, when exchange is really fully undisturbed, or, in other words, at par £100 sterling selling for £100 currency, it is 48s. to be at 100 per cent. premium. For example, 48s. sterling, sterling £100, add premium 8 or cent. 80, makes £108, adding also one-half, £114, we have £100 currency = £100 sterling. The better way would be to quote the dollar, or the pound, or the £100, at what each comparatively worth. Government exchange is less quoted, so are sovereigns. The commander-in-chief of Canada quotes his drafts at 4s. 8d. or 4s. 10d. per dollar, as the case may be, that is, on being paid so many times the currency, he will deliver a bill on the treasury of as many times 4s. 8d. or 4s. 10d. sterling. Sovereigns are quoted in the Canadian price lists at 20s. currency (more or less). Thus, 4s. 8d. sterling per dollar, 20s. currency per sovereign, exchange at 8 per cent. premium, and £100 sterling = £100 currency, all mean the same state of the exchange.

Fluctuations in the rate of exchange of value revolve round the nominal premium of 8 per cent. as around a pivot, so that 8 per cent. premium is in fact 0 discount, and 10 per cent. only 2 premium. The circulating medium is chiefly composed of British and American coins, and of notes circulated by the various banks. No paper is issued by the government or on the credit of the colony.

The Bank in 1828, in the Lower Province, consisted of the Montreal Bank, with a capital of £200,000, the (Montreal) City Bank, capital £100,000, the People's Bank, capital paid up £75,000, and Quebec Bank, capital £75,000.

CANAL, an artificial channel of water, adapted to the easy conveyance of goods in boats or barges, also sometimes for the purposes of irrigation and the supplying of towns with water. Navigable canals have existed since a very remote period, but were principally confined to the low countries adjacent to the alluvial deltas of large rivers, such as the Nile, the Euphrates, and the great Chinese rivers, and in Europe the Po and the Rhine. In such countries, indeed, nature may be said to have pointed out this method of communication, as in every way the most convenient and simple. In Holland, the canals answer all the purposes of highways, and may be likened in their number and utility to the turnpike roads of England; but as a pecuniary investment, the former yield an immense income to government, while the returns of the latter are barely sufficient to keep them in repair. The canals of Holland are mostly formed in straight lines, and the country being quite flat, they are constructed very simply, and without any of the costly expedients of deep cutting, embanking, or tunnelling. The lock, which is an indispensable appendage to canals in this country, is comparatively a modern contrivance, having been first applied in Italy towards the end of the fifteenth century. The vast extent of water communication in China has no locks even to this day. As a substitute they have inclined planes of stone, over which they haul the vessels and launch them again in the upper level, thus applying main force to accomplish what is effected in the lock by simply letting in the water from the upper level into the trough, and thereby raising the inclined barge.

There is the Upper Province was that to compare — The Bank of Upper Canada, with a capital of £200,000, that of Kingston, or the Standard Bank, with a capital of £100,000, together with the Agricultural and People's Banks, the paid up capital of which was probably £100,000 more. The Bank of British America, established in London in the year 1825, has also branches in various places. Most of the provincial banks are constituted on the American principle of limited liability.

DUTY — The duties on imported goods levied in Canada are imposed partly by the authority of the British government, and partly by that of the colonial legislature. The former are called crown duties and the latter provincial duties; the first being in sterling money, the latter in currency. In charging the duties, the dollar is counted at 4s. 8d. which is 4d. less than the old par but 4d. more than its real value. The provincial duties have no object besides the increase of revenue, not discriminating in any way between the measures of supply. The crown duties, on the other hand seem to be framed rather for the purpose of raising the trade.

The duties on imported goods are levied on the value of the goods at the time they are imported, and the value is ascertained by the customs officers. The duties are levied on the value of the goods at the time they are imported, and the value is ascertained by the customs officers. The duties are levied on the value of the goods at the time they are imported, and the value is ascertained by the customs officers.

British produce and manufactures. On foreign wine, (except French wine) the crown duty is 10s. per ton in wood from the United Kingdom, Madeira, and Gibraltar, and £7 per ton from places of growth; on British plantation rum 6d., and foreign spirits 1s. per gallon, and British plantation sugar and coffee are free. On most other articles the 3d and 4d. 10s. 15s. 20s. impose duties of 7½, 15, 20 and 25 per cent., but, as in general they amount to a prohibition, they are seldom levied. The duty of 7½ per cent. is occasionally paid, but the crown only is levied; so that when the goods are liable to the provincial duty of 15 per cent., 5 per cent. only is payable to the crown. (COLONY. EMIGRATION.)

The first efforts of any consequence that were made in this country towards extending inland navigation, took place about the beginning of last century, and by the middle of it 40 acts had been obtained for improving and extending the navigation of some of the principal rivers in England. Experience showed, however, that navigation of this kind was liable to continual waste, and the works subject to destruction by floods. These difficulties suggested (in 1757) to the proprietors of the Sankey navigation in Lancashire the expediency of substituting a new cut alongside Sankey brook, instead of making the latter navigable. But it was the Duke of Bridgewater that first aroused public attention to undertakings of this kind, by a canal which he formed to convey coal from one of his estates at Worsley to Manchester, about nine miles distant. The novel features of this work consisted then (1759) in its taking a direction away from all natural water courses, passing boldly across the river Irwell, at a height of 40 feet above it by means of an aqueduct 600 feet long, and tunnelling through the solid rock of a large hill to reach the mouths of the coal pits. This canal and many others were executed at the private expense of the Duke of Bridgewater, and completed with wonderful skill and ingenuity by Brindley, his grace's engineer. The signal success which attended these undertakings, opened the eyes of the nation to the advantages to be derived from still-water navigation; and extensions from the river Mersey to the Trent, Severn, and Thames, quickly followed. These, and the rapid formation of joint-stock companies, of which upwards of 100 have been incorporated for works of this sort, are evidence of the zeal with which such improvements have been prosecuted. Mr Telford, in his autobiography, mentions as an instance of the eagerness of the public about 1790 for canal speculations, that at the first general meeting of the promoters of the Ellesmere canal (112 miles long, and connecting the Mersey, Dec, and Severn), four times the estimated expense was at once subscribed without hesitation.

In England, about 2400 miles of navigable canals have now been made, and wholly at the expense of private companies or individuals; in Ireland, 300 miles; in Scotland, 200. These works are unequalled for extent, and for difficulties of all sorts successfully overcome. As specimens of the latter may be mentioned the tunnel at Blisworth, on the grand Junction canal, which is 3080 yards in length. The underground cuttings in the Duke of Bridgewater's canal are said to be altogether 18 miles long, and to have cost £170,000. The Marsden tunnel, in the Huddersfield canal, is 5451 yards long. The tunnel at Sapperton, in the Thames and Severn canal, is 2½ miles in length, and 250 feet below the highest point of the hill through which it is made. In the Thames and Medway canal, between Gravesend and Rochester, a tunnel 2½ miles is cut through the chalk; and one of the tunnels of the Leominster canal at Pensax is 3850 yards long.

In the planning of canals, the first object is to select a line that conforms best with the levels and natural drainage of the country, so as to have as few locks as possible, and a plentiful supply of water to them at all seasons. The latter has to be regulated in a great measure by the amount of trade, or number of barges that pass the locks, and the water must be supplied at the highest part of the canal; but the greater part of the waste is generally owing to loss by leakage through the gates, absorption through the ground, and evaporation. It sometimes happens that the adjacent streams are insufficient in dry seasons, or their water is taken off for mills; in such cases, reservoirs must be constructed with weirs and sluices at a great expense. To prevent loss by absorption, the whole extent of the canal is lined with a clay puddle, impervious to water; and in embankments, vertical layers, or sunk walls of the same material, are generally placed at each side as further security.

The expense of constructing canals depends so much upon local circumstances that it is impossible to give data of general application. Some idea, however, of the relative proportion which one part of the work bears to another, may be had from the following abstracts of estimates by Mr Baird and Mr Telford.

Edinburgh Union Canal, 32 miles. (Mr Baird.) Cutting, embanking, puddling, towing paths, £71,000; bridges, aqueducts, tunnels, drains, £84,000; land, £23,000; fencing, £5500; nine locks, rise 110 feet, £17,000; reservoirs, £12,000; total, £212,500.

Leicestershire and Northamptonshire Canal, 42 miles. (Mr Telford.) Cutting, &c., £130,000; bridges, &c., £65,000; land, £18,000; fencing, £6700; total, £219,700.

The rise effected by a lock varies from 4 to 12 feet, according to circumstances, but seldom exceeds 8 feet. The expense appears from Mr Telford's estimates to vary in general from about £120 to £180 per foot rise.

facilities of transit that are afforded by canals seem as yet to be confined to as of speed. Careful experiments, made with barges, proceeding at from one miles an hour, have shown that the resistance increases rather faster than the of the velocity. At four miles an hour the power necessary to pull along y loaded barges is 1-317th of the gross load, while at two miles per hour it shes to 1-1200th only. On a good level turnpike road the power requires to th of the load, and on level railways about 1-220th ; but they remain the t all velocities. Thus at a speed of about 11 miles per hour the same power all along the same load on a canal as on a turnpike road ; and a similar y of advantage exists between a canal and a railway at a speed of 4½ miles ur. Below this rate the canal has the advantage of the railway in point of ay ; above it the railway has the advantage of the canal.

stimulus given to internal intercourse by the success of railways, and espe- the fears entertained by canal proprietors of the injury that their property kely to sustain by their general introduction, has urged them of late, however, t considerable improvements in the construction of passage-boats ; though as am-vessels have not been introduced with success. Experiments made by rth and Clyde Canal Company have proved that a rate of velocity may be ed with horses, which at one time would have been deemed quite chimerical. as been accomplished by extremely light barges called *swift boats*, weighing rom 2 to 3 tons, and made very narrow so as to penetrate the water easily, roduce little disturbance. Their use is principally confined to the canals en Edinburgh, Glasgow, and Paisley ; and their usual rate is from 8 to 9 the hour, not including stoppages or passing of locks. They carry from 80 passengers each, weighing with luggage from 5 to 6 tons. They perform the ce (56 miles) between Edinburgh and Glasgow in 7 hours. On the Grand ion canal, between London and Birmingham, *fly boats* are employed, which ge a speed of 4 miles per hour : they weigh from 7 to 7½ tons, and carry from 15 tons of goods. The ordinary heavy boats are dragged at the rate of from ½ miles the hour : they carry 20 tons of goods, and weigh 6½ tons ; others 24, and weigh 9 tons. [STOCKS.]

de of the cost of conveying goods and passengers on canals at different rates ed. (*Wood on Rail-Roads*, p. 678 ; 1838.)

Rate of speed in miles per hour.	Resistance in fraction of load.	Cost of haul- age per ton per mile.	Cost of boat-hire per ton per mile.	General Expenses per ton per mile.	Aggregate Charges.	
					Useful load per ton per mile.	Gross load per ton per mile.
2½	1/10	d. 0·18	d. 0·32.	d. 0·86	d. 1·36	d. 1·02
4	1/17	0·50	0·66.	2·34	3·5	2·275
10	1/30	0·275 per passen- ger. 3½d. per ton		9·7	1·08 per passenger. 13½d. per ton.	10d. per ton.

NARY ISLANDS, a group belonging to Spain, situated in the Atlantic, off east of Morocco, between 27° 40' and 29° 30' N., and 13° 30' and 18° 20' W. inhabited islands and their population (1837) are Tenerife, 85,448 ; Canary, 1 ; Palma, 33,098 ; Lanzarote, 17,714 ; Fuerteventura, 14,096 ; Gomera, 11,722 ; o, or Ferro, 4481 ; total, 239,338. The seat of the governor-general is at Santa the port of Tenerife, in 28° 29' N., and 16° 15' W. ; pop. 8500. The other chief are Laguna and Orotava in the same island, and Las Palmas in Canary.

aspect of the Canaries is, throughout, elevated, and some of the mountains, particularly the f Tenerife, rank among the loftiest in the globe. The sides of the mountains inclining s the W. and N. exhibit, rising above each other, the plants of the torrid, the temperate, n the frigid zone. The islands are within the limits of the trade-wind, and the climate lly salubrious. The most fertile are Canary and Tenerife ; Lanzarote and Fuerteventura and sandy. About one-fifth of the surface of the whole islands is under cultivation. In a ular return, the principal productions in one year are stated to be, wine, 46,226 pipes ; s, 151,800 quarters ; wheat, 57,487 qrs. ; maize, 39,876 qrs. ; barley, 66,282 qrs. ; rye, 5343 getables, 10,310 qrs. ; barilla, 114,000 quintals ; and orchilla, 1498 quintals. A small quan- ugar is made, and there are manufactures of coarse linens, cloths, and silks. Domestic re plentiful. An active commercial intercourse exists among the different islands, and of 30 vessels are employed in the fishery on the coast of Africa. The staple export is rticularly that called " Tenerife," the better sort of which is equal to the middling kinds ra, for which it frequently passes in England. In 1833, there were exported 3561 pipes sta Cruz, of which, 1855 were sent to London, 968 to Hamburg and Bremen. 405 to ed States, and 181 to St Thomas ; but the total export of wine from the islands in that year pipes. The chief of the other exports are barilla, cochineal, orchilla, fruit, and raw silk,

with small quantities of brandy, vinegar, rock-moss, and tunny-fish. The imports consist of sugar, coffee, brandy, oil, leather for soles, wax, and a variety of manufactured goods. The amount of exports in 1833, according to the tariff valuation, was, to Spain, £34,206; America, £4693; other countries, £65,224; total, £104,123; and imports from Spain, £29,047; America, £11,885; other countries, £128,592; total, £169,524. The imports of British and Irish produce and manufactures, amount annually to about £40,000; chiefly consisting of cottons and woollens, linens, iron, hardware, cutlery, glass, soap, earthenware, hats, and apparel. Foreign wheat, India piece goods, and brandy, are likewise imported from this country. In 1838, 38 British vessels arrived at Santa Cruz, Teneriffe; 13 at the port of Orotava; 8 at Areife in Lanzarote; and 12 at Port of Palmas in Canary.

The Canaries are frequently visited by ships for fresh provisions, which, except vegetables, may be obtained plentifully in most of the islands. There is, however, no accommodation for ships except open roadsteads, which are unsafe in winter.

Measures, Weights, and Money, same as SPAIN.

CANARY SEED is the produce of an annual grass (*Phalaris Canariensis*), chiefly cultivated near Sandwich in Kent; an acre yielding from 3 to 5 quarters. It is used extensively for the food of tame singing-birds.

CANARY WOOD, a fancy wood of a golden-yellow colour.

CANDIA, or CRETE, one of the largest islands in the Mediterranean, is situated to the S. of the Grecian Archipelago. Length, 160 miles; breadth varying from 6 to 35. Population 300,000. Capital, Candia, in 35° 21' N. 25° 3' E.; pop. 12,000. The island forms a Turkish pashalic.

The coast, especially towards the N., is indented by deep gulfs; on the S. it is rugged and iron-bound; and a continuous mass of high land runs through the whole length of the island. The soil is fertile, producing corn, especially barley, oil, honey, and wine, besides considerable quantities of cheese, wool, wax, silk, valonia, carobs, and a variety of fruits. The principal exports are, white soap (50,000 cwts.), sent chiefly to Turkey and Greece, oil, silk, raisins, carobs, valonia, almonds, chesnuts, oranges, lemons, and linseed; and the imports, grain, rice, cottons and piece goods, timber, leather and hides, tobacco, sugar, barilla, butter, salt fish, and other articles; the whole amounting annually to about £130,000 sterling. The chief commercial intercourse is with Turkey, Greece, Austria, and Egypt. According to a recent consular return, the average annual value of British manufactures and metals imported is about £22,000; consisting of cotton twist, 70,000 lbs.; gray calicoes, 4000 pieces; madapolams, 3500 pieces; long cloths, 500 pieces; imitation shawls, 8000 pieces; nankeens, 30,000 yds.; muslins, 2500 pieces; prints, 1200 pieces; cambrics, 1500 pieces; printed shawls, 500 doz.; iron, 600 quintals; shot, 100 sacks. The most frequented port is Canea. Retimo has also a small harbour. That of Candia is much decayed, and nearly filled up. These three principal towns are all situated on the N. side of the island.

Measures and Weights.—The pic or ell = 25½ = 126 lbs. avoird. A mule or horse load (by Imp. inches; the dennum is about 40 sq. yds.; which some duties are reckoned) weighs about 2½ cwts.; an ass load 1½ cwt.
the mistach of oil about 3 Imp. galls.; the mistach of wine varies from 3 to 5 galls.; the corn measure is the carga = 4.19 or nearly 4½ Imp. bush.; the oke = 2½ lbs. avoird.; and the quintal = £1 sterling nearly.

CANDLE. Candles are manufactured from tallow, bleached bees'-wax, spermaceti, the concrete part of cocoa-nut oil, and lately the concrete part of tallow has been separated by pressure from the oil, and made into candles, under the name of *stearine*. They are also made from mixtures of the preceding, and called composition, imperial wax, &c. Candles are always cylindrical, and have a wick formed of fine cotton in the centre. The use of the wick is purely mechanical; when lighted it first melts the solid candle, which, being drawn by capillary action, is diffused over the fibres of the wick, and thus prepared for decomposition and combustion. The quality of the candle depends very much upon the wick, as if too thin, it will melt more than the fibres can decompose, and the candle will run; if, on the other hand, the wick be too thick, the candle will smoke; owing to the melted part not being in a perfect state of combustion, for want of air at the centre of the wick. Wax and sperm, from being less fusible than tallow, are made with a much more slender wick, which, bending over, is consumed by the oxygen of the atmosphere, and therefore requires no snuffing. The best tallow candles are always firm and white. Wax candles, on the contrary, are never perfectly white when pure, but are a little inclined to straw colour. They should be hard and free of grease; when very white and opaque, they are adulterated with tallow. Pure spermaceti candles are readily distinguished by their transparency, and they are therefore seldom adulterated. Wax candles, on the contrary, are much adulterated; and it is not uncommon for dealers to quote their price at one-half of that of the raw material.

Tallow candles were formerly subject to an excise duty of 1d., and wax and spermaceti of 3½d. per lb. These duties were repealed from 1st January 1832 (1 & 2 Wm. IV. c. 19). In 1830, the quantities brought to charge were, tallow, 115,586,192 lbs.; wax and spermaceti, 1,265,113 lbs.; and the net produce of the duty, £482,413; a considerable quantity of tallow candles were, however, manufactured privately. The exportation of candles is trifling, except to the West Indies.

CANDY, a large East Indian weight, consisting generally of 20 maunds. The Madras candy of 20 maunds = 500 lbs. avoird. ; the Bombay candy also of 20 maunds = 560 lbs., or 5 cwt. avoird., reckoned for grain at 25 Winchester, or 24½ Imp. bushels.

CANDY, a preparation of sugar, made by melting and crystallizing it several times.

CANELLA ALBA, an aromatic tree common in the West Indies. The bark of the young branches, freed from its outer rind, is imported in rolls or quills two or three feet in length, or in small broken pieces, and employed as a stomachic. It has a bitterish, acrid, peppery, taste, and is sometimes called *white cinnamon*.

CANES are obtained from a variety of palms and plants of the reed kind. They are imported principally from the Malayan Archipelago, India, and China. The chief are the **BAMBOO** and **RATTAN**.

CANNA, or **CANNE**, a measure for cloth in Italy, and in the South of France, Spain, and other places.

CANNON. [GUN.]

CANTARO, a weight used in Italy, Egypt, and the Levant. It generally contains 100 rottoli.

CANTEEN, a place in a fort or barracks licensed for the sale of liquors, tobacco, and provisions. The sale of liquors is not allowed except at the canteen, and the quantity sold at one time is regulated by the commanding-officer. The quartermaster is responsible that no disorder occurs.

CANTHARIDES, called also Spanish fly or blister beetle, is an insect (*Cantharis vesicatoria*) found in the warmer parts of Europe, especially Spain and Italy. It is about three-fourths of an inch long, of a bright green colour, except the legs and antennæ, which are bluish black, and is well known for its medical uses.

CANVASS, a coarse strong cloth made of hemp or flax, and used chiefly for **SAIL-CLOTH**.

CAOUTCHOUC, **GUM-ELASTIC**, or **INDIAN RUBBER** (Fr. *Caoutchou*. Ger. *Federharz*. Por. *Boracha*. Sp. *Resina elastica*. *Ulé*), is obtained from the juice of several South American plants, particularly the *Siphonia elastica*, also from the *Ficus elastica*, a species of fig-tree. Incisions are made in the bark, chiefly in wet weather, and the flux, which is abundant and of a yellowish-white colour, is conducted by tubes into vessels for its reception. The caoutchouc is afterwards separated by heat or exposure to the air. It is formed by the natives of S. America into pear-shaped bottles, by being spread over moulds of clay, and its dusky coating is communicated by exposure to smoke in order that it may be thoroughly dried. It is then commonly marked on the outside with various lines or figures, and the clay after having been softened with water is picked out.

Caoutchouc, when pure, is destitute of taste and smell. Its sp. gr. varies from .930 to 1. It is remarkable for its elasticity. It is insoluble in water and in alcohol ; and is difficultly acted upon by acids and alkalis. It dissolves sparingly in washed ether ; but in the coal naphtha, or oil obtained from gas works, it is softened and dissolved in a very remarkable manner, and the solutions have been applied to render various articles of clothing waterproof. The cloth thus prepared, besides being extensively used for cloaks, is so impervious to moisture and to air, that floating or hydrostatic beds for invalids are formed from it, and even beds and cushions are rendered elastic by inflation. Caoutchouc is besides employed for the erasure of pencil marks on paper by friction, for the manufacture of braces and surgical instruments, and it is cut by machinery into very fine thread, which is woven into a variety of ornaments and elastic fabrics. " Subjected to destructive distillation it yields a large relative proportion of a highly volatile and inflammable liquid hydrocarbon. This product, which is applicable to many useful purposes in the arts, is made upon a large scale by Messrs Enderby of London ; it is a solvent of caoutchouc itself, and of other substances used as varnishes. The various applications of caoutchouc in the manufacture of elastic articles and other useful products, are as yet probably in their infancy only." (*Brande's Chemistry*.)

Caoutchouc is imported chiefly from Guiana, in the woods of which, as well as in the province of Quito, and along the borders of the Amazon, the tree grows abundantly. The consumption has of late years been greatly increased, partly owing to a considerable reduction of duty, but chiefly from the discovery of its application to waterproof clothing by Mr M'Intosh.

CAPE BRETON. [NOVA SCOTIA AND CAPE BRETON.]

CAPE DE VERDE ISLANDS, a group subject to Portugal, situated in the Atlantic, about 300 miles W. of Cape Verde in Africa, and consisting of ten islands, of

but that the paper rixdollar was depreciated from 1s. to 1s. 4d., the value prior to 1855, when it was fixed permanently at 1s. 6d. The Cape of Good Hope Bank, lately established, has its head office also at Cape Town, but it has branches at Graham Town and other places. Another joint stock bank has been projected at Graham Town, but it may be doubted how far the resources of that locality are yet sufficient to afford stability to such an institution. There are also two insurance companies, namely, the "South African" and "Cape of Good Hope." The shares of all these undertakings are now quoted at high prices.

Finances.—In 1855, the public revenue amounted to £145,000, and the expenditure to £167,000; the last, however, was exclusive of the expenses incurred in England on account of the colony.

Import Duties.—The general rate on British or colonial merchandise is 3 per cent. ad valorem; on foreign, 10 per cent. (Order in Council, August 10, 1851). The duty levied on vessels entering Table or Simon's Bay, for the purposes of trade, are 4d. per ton, but if for refreshments or other purposes, only 2d. per ton. The importation of arms and ammunition is prohibited except with permission from the government.

The Cape was discovered in 1482. Formal conquest by the English, 1805. Dutch settlement, 1800. Dutch conquest, 1795. Restoration to the Dutch, 1803. Surrender by the British, 1805; to whom the colony was finally ceded in 1814.

CAPERS (Fr. *Capres*. It. *Cappari*), the flower buds of the caper bush, (*Caprus spinosus*), a trailing shrub, which grows in profusion in Italy and the south of France, particularly between Marseilles and Toulon. They are used as a pickle, and about 70,000 lbs. are consumed in the United Kingdom yearly. The youngest and smallest are deemed the best.

CAPITAL consists of the accumulated savings of industry, capable of being employed either for the support of human existence, or as an instrument of production. It is distinguished by economists into two sorts, arising from a difference in the mode of applying it. *Fixed capital* consists of those articles of a durable nature which contribute to production without being destroyed. Such are roads, canals, houses, docks, harbours, warehouses, and those tools, machines, and other accommodations which do not perish in the using. *Circulating capital* possesses this distinctive character, that it is necessarily consumed in contributing to production, and that it must be reproduced in order to enable the producer to continue his operations. Of this nature are food, coal, seed, wool, clothes, some kinds of tools, and all other articles subservient to production which perish in the using. These terms are not however always very definite. Thus, the lower animals are in some cases to be regarded as fixed, in others as circulating capital; oxen used permanently for draught, belonging to the former, but when reared solely for the market, to the latter. "It follows, necessarily, if the instruments of labour, the materials on which it is employed, and the subsistence of the labourer, are all included under the name of capital, that the productive industry of every country is in proportion to its capital, increases when its capital increases, and declines when its capital declines. It is obvious that when there are more instruments of labour, more materials to work upon, and more pay for workmen, there will be more work, provided more workmen can be obtained. If they cannot, two things will happen: wages will be raised, which, giving an impulse to population, will increase the number of labourers; while the immediate scarcity of hands will whet the ingenuity of capitalists to supply the deficiency, by new inventions in machinery, and by distributing and dividing labour to greater advantage." (*Mill's Political Economy*.)

Capital, according to the sense in which the term is generally used in commerce, does not differ essentially from that now explained. It comprehends in addition the debts due to traders; but in estimating capital in the aggregate, these must evidently be neglected, as what constitutes an article on the credit side of the books of one class of men, forms an exactly equal item of debt in the books of others.

The rate of the accumulation of capital depends upon the degree in which production annually exceeds consumption. Accumulation is facilitated by the abatement of taxes, and by the removal of monopolies, and of all impediments to the free employment of the capital, labour, and skill of a nation. It is also increased by whatever tends to economize consumption in the different branches of industry, and by the prevalence of frugal habits,—objects which only can be secured by having professional skill of every sort upon real knowledge, by the enlightenment of the people, and above all by the predominance of pure and simple tastes and sound morals.

CAPSICUM. (Persan.)

CARAT, or **KARAT**, a term used in a relative sense to express the fineness of gold. It means the twenty-fourth part of any given weight of that metal or of its

admirer. If such a weight be more than 1 carat, it is said to be 34 carats fine; if three-fourths only be found, it is said to be 13 carats fine. The diamond carat, however, is a definite weight = $\frac{1}{4}$ troy grains; and the pearl carat = $\frac{1}{2}$ ths of a troy grain.

The carat was originally the 16th of the old marc, or half-pound of the French, from whence the term is said to have come.

CARAVAN, a troop or party of merchants or pilgrims, as they travel with camels in the east. The custom, as is well known, enjoins every Mussulman, who has the means, to perform a pilgrimage to Mecca once at least in his life. Dehajja, as the name imports, is the month in the Mohammedan calendar peculiarly set apart for the performance of this journey. Formerly when devotional zeal was more ardent, the hardships of the journey through the desert were held to increase the merit of the act, but of late a considerable portion of the hajjis do not travel by land with the caravans, but arrive by sea at Jeddah. The regular haj-caravans are six or seven in number, though they do not always make their appearance together, nor even perform the visit annually. One caravan proceeds from Syria, consisting chiefly of pilgrims from the Turkish empire. Another, issuing from Cairo in Egypt, comprises the Magrebins, or African hajjis. A third caravan arrives from Bagdad with Persian pilgrims; and two smaller caravans go from Ladak and Omdah, besides a separate company of pilgrims from Yemen. The principal is that from Syria, which used to be accompanied by the caliph in person. During the winter route it is assembled from town to town by the armed force of the district, and from Damascus to Medina it moves with great pomp across the desert,—a journey of 30 days. The Pasha of Damascus, or one of his principal officers, always escorts it; and the different classes of hajjis are stationed according to their own or district. At every stage (or distance of 11 or 12 hours' march), is a storehouse for provisions, with a small garrison, and a large tank at which the camels receive water. The usual time of travelling is from three o'clock in the afternoon to an hour or two after sunrise next day,—torches being lighted during the night. The pomp and magnificence of this moving solemnity are still considerable, though much diminished since the time of the caliphs, both in point of splendour and attendance. In 1314, the Syrian caravan, which was reckoned small, amounted only to 4000 or 5000 persons, attended by 15,000 camels. But of late years the numbers are understood to have increased, owing to the greater security afforded by the Pasha of Egypt against the Bedouins and Wahabees. Most of the pilgrims undertake the tour with a view to profit. Some accompany the caravan as soldiers; some are pilgrims by profession, and are paid to perform the sacred journey for others; and except mendicants, almost every hajji combines mercantile adventure with his religious duties. So much is this now the case that the annual assemblage of Mecca, instead of a religious ceremony, may be more properly regarded as the principal eastern fair for the exchange of the productions of Asia, Africa, and Europe. The Magrebins bring their red bonnets and woollen cloaks; the western Turks, shoes and slippers, hardware, embroidered stuffs, sweetmeats, amber, European trinkets, and other small wares; the Anatolians bring carpets, silks, and Angora shawls; the Persians, Cashmere shawls, and large silk handkerchiefs; the Afghans, plain coarse shawls, beads, &c.; the Indians import the numerous productions of their rich and extensive regions; the people of Yemen bring sandals and various articles in leather; and of late years an increased quantity of European manufactures are carried there through various channels.

Besides the religious caravans, there are many others which travel betwixt various places both in Africa and Asia. Thus, the intercourse betwixt Egypt and Barbary and the interior of Africa is conducted by means of these associations; the trade between Russia and China is likewise a caravan trade; as is that between Aleppo and Bassora, and Bagdad; similar lines exist in the countries to the E. of the Caspian; and others on a smaller scale are constantly occurring at various places where travellers and others assemble and organize an expedition for their mutual safety; one of their number being elected to regulate the order of march, and others to adjust disputes.

“ Notwithstanding the robberies and violence of legal and illegal bandits, the commerce of the east, without exchanges or post offices, canals or railroads, insurances or credit, unprotected by courts at home or consuls abroad, unprotected by a legislative body, where all interests are duly represented,—extends its gigantic operations from Mount Atlas to the Yellow Sea; from the Blue Mountains amid the deserts of Africa to the Balkal in the wastes of Tartary; and by the slow and noiseless step of the camel, maintains the communications, exchanges the produce, and supplies the wants of three-fourths of the globe. It is impossible to witness the arrival of the many-tongued caravan at its resting-place for the night, and see unladen and piled up together

the bales from such distant places,—to glance over their very wrappers, and the strange marks and characters which they bear, without being amazed at so eloquent a contradiction of our preconceived notions of indiscriminate despotism and universal insecurity of the east. But while we observe the avidity with which our goods are sought, the preference now transferred from Indian to British muslins, from Golconda to Glasgow chintzes, from Damascus to Sheffield steel, from Cashmere shawls to English broad cloth; and while at the same time the energies of their commercial spirit are brought thus substantially before us, it is indeed impossible not to regret that a gulf of separation should have so long divided the east and the west, and equally impossible not to indulge in the hope and anticipation of a vastly extended traffic with the east, and of all the blessings which follow fast and welling in the wake of commerce." (*Urquhart's Turkey*, p. 134.)

CARAWAY, a biennial umbelliferous plant (*Carum carui*), cultivated in the southern districts of England, chiefly for its seeds, which are used to a considerable extent in confectionery, also for flavouring cheese, spirits, and liqueurs, and in medicine. The seeds have an aromatic smell, a warm pungent taste, and yield much essential oil. They are largely imported from Holland.

CARBUNCLE, a name sometimes given to the Precious Garnet, or Almandine.

CARDAMOMS, a spicy seed obtained from small plants growing in India, Ceylon, and Java. They are of two sorts, called the lesser and greater seeds.

Lesser Cardamom seeds are a product of the *Elettaria cardamomum*, which is produced in great abundance on the Malabar coast. They are small, almost black, nearly triangular, rugose, with an intensely aromatic taste, and a fragrant camphoraceous smell, and are contained in a triangular membranaceous capsule, pointed at both ends, about half an inch long, and trilocular. They are much used in medicine, and as a condiment. In India they are an article of great importance.

Greater Cardamom seeds, or the grains of paradise seeds, are a product of the *Amomum granum paradisi*, cultivated in Ceylon and Java. They are much larger than the preceding, more pungent, and less aromatic. They are sometimes imported into England, but are not esteemed.

Mr Milburn states that cardamoms are reckoned to keep best in a body; and are therefore packed in large chests well jointed, pitched at the seams, and otherwise properly secured, as the least damp greatly reduces their value. (*Oriental Commerce. Ainslie's Mat. Ind.*)

CARDS AND DICE. The manufacture and sale of these articles are regulated by 9 Geo. IV. c. 18; its chief clauses are as follow:—

§ 2. An annual license costing 5s. shall be taken out by every maker of cards or dice, under penalty of £100, and a duty of 1s. shall be paid for each pack of cards (to be specified on the ace of spades); and of 20s. for every pair of dice. § 7. Manufacture to be confined to cities of London, Dublin, and Cork, under penalty of £100. § 24. No playing cards shall be sold as waste cards, unless a corner of every such card shall be cut off at least half an inch in depth, nor unless the same shall be sold or exposed to sale in parcels, without being enclosed in any wrapper, or paper, or other cover. § 25. It shall be lawful for any person, not being a licensed maker of cards, to sell any pack, notwithstanding the same may have been previously sold and opened, or used, if every such pack shall be sold without the wrapper or Jew of any licensed maker, and shall contain not more than 52 cards, including an ace of spades duly stamped for use within the United Kingdom, and shall be enclosed in a paper or wrapper with the words "second hand cards" printed or written in distinct and legible characters on the outside thereof. No foreign cards shall be warehoused without having the name of the maker thereon.—The stamp-duty on cards and dice annually amounts to about £14,000.

CARGA, a liquid measure in Barcelona, equal 27½ Imp. galls.; also a Spanish weight. In Candia it is a corn measure, equal 4½ Imp. bushels.

CARMINE is a beautiful red pigment, made of cochineal and alumina, or oxide of tin.

CARNELIAN, an ornamental stone, so called because some kinds are of a flesh colour, is a variety of agate or calcedony. Carnelians, when recent, are dark olive green, inclining to greenish gray; but, by exposure to the sun and calcination, they become generally of a reddish colour, though sometimes yellow or white, the deep clear red being, however, the most valuable. They are never figured or striped. The great supply is from Japan, and they are also imported from Bombay, being collected in the province of Guzerat; but the best come from the Gulf of Cambay. Many of the antique gems are engraved in carnelian, and it is now much used for seals.

CARPETS (Fr. *Tapis*. Ger. *Teppiche*. It. *Tappeti*. Rus. *Ковры*). The principal localities of the carpet manufacture are Kidderminster in Worcestershire, Wilton in Wiltshire, Axminster in Devonshire, Yorkshire, and Kilmarnock, Edinburgh, and Stirling, in Scotland. The term Kidderminster is applied not only to the carpets made in that place, but likewise to the Yorkshire and Scotch. Other kinds of British carpets are distinguished as "Brussels," "Venetian," and "Damask Venetian." The Brussels are in fact Wilton carpets; they are com-

Wool of India and Persia, and comprise the most important branch of the manufacture. The more extended use of carpets of late years has led to so great an increase in the demand of manufacture, that it is said to have been quadrupled since the beginning of the present century. In a well written article on carpets in the *FOURTH COMPANION* the number of looms in Britain is estimated at 4000, and their yearly produce at £1,000,000. The exports are chiefly to the United States. A few carpets of more beautiful fabric are still imported from Turkey and Persia; but the domestic carpets are now nearly equalled by the best of those made in Axminster, Wilton, and Edinburgh. The Scotch-Persian and Scotch-Turkish carpets made in Edinburgh have of late years obtained high celebrity.

CARRIAGES. [See **PASSENGER**.]

CARRIAGE ACT 1865. Carriers stand under that doctrine, derived from the civil law, which renders innkeepers, shipowners, &c. liable to restore the property entrusted to their charge in the condition in which they receive it, unless it has suffered from "an act of God or the king's enemies." The term includes all who carry persons or goods for hire, as mail-coach contractors, waggoners, stage-coachmen, and barrowmen: but hackney coachmen are not understood to be included. The extent of responsibility, from the necessity of admitting many qualifications was vague and irregular, until fixed by 11 Geo. IV. & 1 Wm. IV. c. 68. It was thereby provided that carriers should not be liable for the loss or injury of gold or silver or jewels or ornaments, jewellery, watches, clocks, trinkets, notes or other securities for payments of money, stamps, maps, writings, title-deeds, paintings, engravings, pictures, articles of glass, china, silk, furs, or lace, whether delivered for simple carriage, or accompanying a passenger, when the value exceeds £10, unless the value has been declared at the booking-office, or other proper place, and the usual increased charge paid for conveyance. The rate of increased charge must be published by notice affixed in legible characters, on some conspicuous part of the office. When the increased rate is paid, the person in attendance must give a receipt (which is not liable to stamp duty) if required, otherwise he loses the benefit of the act, and becomes responsible at common law. Carriers are liable for the safety of goods not specified by the act, notwithstanding any advertisement to the contrary. When the increased rate is paid with a parcel, the party entitled to receive damages in case of loss or injury, is also entitled to recover the increased charge. Carriers are not restricted against as to value by the additional rate being so paid, but may require proof from the party suing. [There are separate statutes affecting the liability of shipowners. **SHIPPING**.]

It is noted that one who binds himself out as a carrier to all comers, cannot refuse goods offered for conveyance if he have room for them, unless he can show that they are of a nature calculated to injure other property. As a counterpart to the obligations which he thus comes under to the public, the carrier has a lien on the property conveyed by him for his charges. The lien is particular, not general, and so one set of goods cannot be detained for the charges on a previous set. (*Jones on the Law of the Land and Rights of Common Carriers*.)

CARROT, an umbelliferous plant (*Daucus carota*), having a succulent root, which is largely used as human food, and in some places for the maintenance of stock, especially horses and dairy cows. The most esteemed for field culture in England are the Altringham, the Orange, and the Long-red. Professor Low states that, under favourable circumstances, the produce will be from 300 to 400 bushels to the acre, though much beyond this quantity is sometimes produced. Carrot seed is raised largely at Weathersfield, in Essex: it is also imported from Holland.

CARTHAMUS. [See **SAFFLOWER**.]

CASCARILLA BARK. [See **CASIA**.]

CASH, a general term for money: also the name of a small Chinese coin.

CASH-CREDITS in the Banking System of Scotland. "A cash-credit," says Professor Bell, "is an undertaking on the part of a bank to advance to an individual, or to a partnership, such sums of money as may from time to time be required, not exceeding on the whole a certain definite amount; to be repaid, and a continual circulation kept up by the replacing in the bank of small profits and sums as they come in. The security upon which the advances are made, is a bond with sureties, generally two in number, for the repayment, on demand, of the sums actually advanced, with interest upon each issue from the day on which it is made; interest at a lower rate being allowed by the banker for the sums paid into the bank" (*Commentaries*, I. 367, 368). The security in short enables one to transact business with the bank, as if the sum for which the sureties have become responsible were actually deposited in his own name. When the banker discounts bills

der of the account, he may either enter them to the debit in the account, or as separate transactions, but by adopting the latter step he is not from entering them afterwards on the account, and so making the responsible. The bond thus covers every description of transaction on which the party may become responsible to the banker, whether it be a cheque drawn by the holder himself, or a bill discounted by him, for which the banker may have looked at first to another party. A cash-advance may be secured on real property. By an old Act of Parliament (1696, c. 5) a mortgage for future debt could not be made real upon landed property. By a partial sequestration act, still in force (54 Geo. III. c. 137, § 14), this rule was modified that proprietors of lands might pledge them, either directly for the use of a bank which grants a cash-credit, or by way of relief to the cautioners, provided that the principal and interest which may become due be limited to a certain definite sum to be specified in the security, not exceeding the amount of the principal sum, and 3 years' interest at 5 per cent. "The limitation," says Mr. Bell, "is rather vaguely expressed in the act; but the meaning seems to be that the sum to be secured shall not exceed in amount the principal sum advanced to the person to be accommodated shall have the privilege of drawing, together with 3 years' interest of that sum" (*Com. II. 241*). Were the bond, in the case of a cash-credit, the security given is personal, to place the sureties in the situation of simple debtors, the security would be extinguished or would prescribe in seven years. [MORTGAGE OBLIGATIONS.] The limitation, however, is avoided by the practice of treating the principal and his sureties as co-obligants, the former being only released from the latter as the person whose drafts are to be honoured. By this means also, the obligation to follow out diligence or execution against the principal debtor, before the cautioners can be sued, is avoided. The bank will be obliged to assign to the cautioners the bills and other obligations which they have on the account, but if the balance due exceed the sum secured by the cash-credit, the banker will not be bound to give up papers on which advances have been made, unless they have been entered in the account as they were presented, and will be looked upon as discounted on the credit of the guarantees. These last limit and terminate their responsibility by notice to the bank, and to the principal in the cash-credit.

Where one granted a guarantee for a person who had a cash-credit, saying, 'Mr. G. D. has asked me that he may have occasion to overdraw his account to the extent of £3000; and, should he do so, I hereby become bound to repay the same to you, in the event of his failing to do so, this was held not to be merely a guarantee for one advance, but to be an addition to the cash-credit, covering like it the balance on a series of transactions. Where, of three co-obligants in a cash-credit, two granted a letter requesting that it might be continued, 'in terms and to the effect of the bond,' on the holder's decease, in favour of his son, they were held conjunctly liable, and in terms of the bond there was a third obligant to share the responsibility with them, and it was held that they granted the letter only as a continuance of their liability under the bond. In a cash-credit in the regular form, the bank may introduce discounts of bills and other securities against the principal party, which have not properly formed part of his cash-account. Transactions charged on, however, must be strictly legal and regular. It was found on appeal, that a bank could not pursue cautioners on drafts drawn beyond the statutory distance (which was then 15 miles, but is now fifteen miles), or wrong dated, where the bank-agent was aware of these facts; and this though the drafts were entered in accounts docketed by the principal. A person who has a cash-credit for all bills on which C. F.'s name might appear, was liable for bills drawn on C. F. & Co., a concern in which C. F. had no partner." (*Burton's Manual of the Law of Bills, 462, 463; authorities quoted.*)

CASHEW-NUTS (Fr. *Noix d'Acajou*. Ger. *Akajunüsse*. Por. *Nozes d'Acaju*. *Castañas d'Acaju*) are kidney-shaped bodies attached to the fruit of a small tree (*Cardinalia occidentalis*) found in the West Indies and South America. The nut is a wholesome article of food, and is used as an ingredient in puddings. It is sometimes roasted for the purpose of communicating a flavour to Madeira. The cashew fruit is highly esteemed in Brazil.

CASEMERE. [SHAWL.]

CASE (Fr. *Baril*, *Tonneau*. Ger. *Fass*. Por. *Barril*). Empty packages of any manufacture exported with merchandise and returned, are to be admitted free of duty (C. O. 5th May 1835). And packages from which wine or spirits have been racked, drawn off, or destroyed, are to be delivered free of duty. (C. O. 1st Feb. 1835.)

CASSAVA, OR MANDIOC (Por. *Mandioca*), a farinaceous substance obtained from the roots of a plant (*Jatropha manihot*), which is extensively cultivated in South America, especially Brazil, where it forms the principal article of food. Tapioca is a well-known preparation of cassava.

CASIMERE, a fabric made of very fine wool, sometimes tastefully mixed

with silk or cotton. It differs from viscous and salutarie in having its twill surface diagonal. It is used for watercoatings.

CASSIA FISTULA (Fr. *Indurciss.* Ger. *Pergament.* Pers. *Kajur chender*), a small tree indigenous to India, Persia, and Egypt, and cultivated in Jamaica. The fruit is a four-sided capsule, a foot or more in length, but scarcely an inch broad. The seed of this pod has medicinal properties, but it is now little employed. Two sorts of them are imported.—East Indian and West Indian. The former are the smallest and smoothest, and are generally preferred. (Duncan's *Botanography*.)

CASSIA LIGNEA (Fr. *Indurciss.* Ger. *Leinwand.* Sp. *Cassia lenosa*. Por. *Indurciss.* Ger. *Indurciss.* It. *Marzoum.* *Houssouir*), a bark resembling cinnamon, produced according to some from the *Cinnamomum Zeylanicum*, or from a cinnamon-tree, though in recent grounds ascribed by others to the *C. cassia* Linn. It is indigenous to the districts of Quang-tung and Quang-see in China, but cultivated in the Eastern Islands. The cassia consumed in Europe is chiefly imported from India. It sometimes resembles the generally may be distinguished by being much more and less pulsed. It has also a shorter odor, breaks shorter, and is more readily reduced to the mass. Mr. Milburn recommends that "it should be chosen in the market if it is aromatic, fine, and aromatic taste, and the best is that which resembles most to cinnamon in flavor: that which is small and broken should be rejected." (Duncan's *Botanography*.) This bark is chiefly employed as a substitute for cinnamon. In 1834 the exports from Canton by the British amounted to 2,450,000 lbs. and by the Americans to 2,000,000 lbs.; the price in Canton being about 3d. per lb. The importations into the United Kingdom were, in 1833, 1,200,000 lbs.; in 1834, 1,000,000 lbs.; in 1835, 1,400,000 lbs.; in 1836, 837,413 lbs.; in 1837, 1,000,000 lbs.; in 1838, 1,000,000 lbs.; in 1839, 1,000,000 lbs. The quantity imported annually for home consumption is about 1,000,000 lbs.; the surplus is exported to all parts of Europe, except Portugal; also to Canada, West India, and Africa.

CASSIA STICK (Fr. *Indurciss.* Ger. *Sticks* in Cassia), are produced by the same plant as the cassia bark, and are imported from China. They are of a dark brown colour, with a firm like that of a rail. The flavour and taste resemble those of cinnamon.

CASSIA is of a lighter colour than cinnamon oil: taste acrid and pungent, and more aromatic.

CASSIA is one of the most celebrated *Adonis vernalis* formerly celebrated for its medicinal properties, but now only used in preparing the liquor called *ratifia*.

CASTOR OIL (Fr. *Castor.* Ger. *Stör.* Pers. *Badouir* is *straps*), a concrete medicinal substance of a peculiar nature, found in two pear-shaped bags situated between two smaller follicles, in the internal region of both sexes of the beaver. It is of a semitransparent whitish colour, and a bitterish and somewhat acrid taste. There are two kinds, the Russian and Canadian or English, of which the former, now very rare, is the most esteemed. The Russian castor occurs in pairs of bags of unequal size, from 3 to 4 inches long, and 1½ to 2 inches broad at the base. The bags of American castor are smaller, narrower at the base, and much corrugated. That which is very white, pale black, and almost destitute of taste and smell, should be avoided. It should be kept in a cool place, and in a well-corked bottle.

CASTOR NUTS (Fr. *Castor.* Ger. *Stör.* Pers. *Badouir* is *straps*).

CASTOR OIL (Fr. *Castor.* Ger. *Stör.* Pers. *Badouir* is *straps*). It (*Oil di ricino*) is prepared from the seeds of the *Ricinus communis* or *Palm Christi*, a plant which grows in the East and West Indies, America, and the S. of Europe. The oil is obtained from the seeds either by expression without any assistance from heat, or by boiling. The first, called *cold-pressed* castor-oil, is always to be preferred. It is of an amber colour, and of a slightly nauseous smell and taste. The oil obtained by boiling the seeds is more deeply coloured, more acrid, and more liable to become rancid. Castor oil is one of the most valuable aperients we possess, and the consumption has greatly increased since the late reduction of the duty to 1s. 3d. per cwt. It is chiefly imported from India, but smaller quantities are also brought from North America and the West Indies; that from Jamaica being of a superior quality. The castor nuts or seeds are now likewise imported in considerable quantities, and the oil manufactured in this country. The nut or capsule is trilobular, nearly the size of a large marble, of a pale green colour, and usually contains three whitish seeds of an oblong flat shape, and heavy taste. (Linnaeus's *Mat. Indica*.)

CATECHU (Fr. *Cachou.* Ger. *Katchu.* Can. & Hind. *Catt.* It. *Caterà*,

Catechu), formerly called *Terra Japonica*, is an astringent extract, chiefly prepared from a decoction of the brown heart-wood of the *Acacia catechu*, a tree native to Hindostan. It is a dry, opaque, friable substance, of various forms, in masses, or cut into discs, squares, or lozenges. Its taste is powerfully astringent, afterwards bitterish, then sweet, and its colour varies from pale brown to dark brown, the darker coloured being the most astringent. It is soluble in water, but more easily in alcohol. It seems to keep for any length of time without change.

Catechu contains a greater proportion of tannin than any other substance, 1 lb. being in this respect equal to about 7 or 8 lbs. of oak bark. Two sorts are commonly imported, namely, an inferior kind from Bengal, and another of a yellowish-brown colour from Bombay. There is but little difference betwixt the two varieties; according to the analysis of Davy, the Bombay catechu affords the greater quantity of tannin, and is therefore preferable. It is consumed in enormous quantities as a masticatory by the Malays and other betel-eating nations. In this country it was used solely as an astringent medicine, until of late, when it has been employed for tanning.

CATGUT, OR CATGUT (Fr. *Corde à boyau*. Ger. *Darmsait*. It. *Corde di bue*), a cord made of the twisted intestines of the sheep. There are different kinds, such as hatters' cords, cords for bowstrings, clockmakers' cord, and fiddle strings; these last, made of the peritoneal covering of the intestines, are imported from Italy, where they are manufactured of a quality superior to any prepared in this country.

CAT'S-EYE, a gem which presents a beautiful opalescence like the light of the sea when seen through a cat's eye. It is a variety of fibrous quartz, interspersed with thin filaments of iron. It is often brown and red, but commonly of a grayish or greenish colour and generally translucent. This stone, which is chiefly procured in Ceylon and Labrador, is held in high estimation. Among the late King of Candy's jewels, which were sold at auction in London in 1820, there was a cat's-eye, which measured two inches in diameter, and brought upwards of £400.

CATTLE SKIN. [FUR.]

CATTLE (NEAT), OR OXEN. The domestic ox (*Bos taurus*), said to be of European origin, is found from the equator almost to the limits of vegetable life. In an early period, Britain has owed no small part of her opulence to the extent and numbers of cattle possessed by her. The varieties or breeds are diversified both by natural circumstances and by the effects of art in improving their properties and form. According to Professor Low, the types of the cattle of this country are as follow:—1. *The mountain breeds*, comprehending small hardy animals which are naturalized and reared in the more elevated parts of Scotland, Ireland, and Wales. 2. *The Devon breed*, a medium-sized breed, generally of a bright red colour, peculiar to the S. of England, and of which the stock is the North Devon. 3. *The long horned* (suited to field grazing and to treatment), prevailing chiefly in the humid and western parts of England and the lower districts of Ireland, and of which the most improved variety is the *Longhorn*. 4. *The short horned* (suited to stall feeding, and the practice of the most improved agriculture), more peculiarly belonging to the dry and eastern parts of the country, and of which the most improved variety is the Teeswater, called also the *North Devon*. 5. *The Alderney*, a small delicate breed found almost exclusively on the islands of the British Channel. The breed of short horns is the most esteemed; and it is said, that it has in form, disposition to fatten, and early maturity, been brought to all the perfection of which the ox seems to be susceptible (*Low's Agriculture*). Mr Youatt states that this country "has to boast of more than eight millions of cattle unrivalled in the world. 160,000 head of cattle are annually sold in the market alone, without including calves or the *dead market*—the carcasses from various parts of the country. If we reckon this to be a tenth part of the cattle slaughtered in the United Kingdom, it follows that 1,600,000 of them are the butcher every year; and averaging the life of the ox or the cow at five years, the value of British cattle, estimated at £10 per head, will be £80,000,000." (*on Cattle*.)

It can be said regarding the commerce in cattle, from its scarcely coming into the range of the public accounts. It consists in a great measure in bringing foreign-bred animals to fairs and public markets, where they are purchased by lowland farmers, and afterwards fattened for the supply of the towns. The cattle produced in Argyllshire and in the Hebrides. The different islands export about 150,000 of these cattle, of which it is calculated that not less than 100,000 are sent annually to the mainland. If these average £5 a-head, the

amount will be £150,000. The cattle bred in the West Highlands are, at the age of 2 or 2½ years, removed into Dumbartonshire and the neighbouring counties. At 8 years old, they, along with large quantities from Galloway, are carried to the northern counties of England, and so by degrees southward, particularly to Norfolk and Suffolk, from whence the London market is chiefly supplied. Of late years, however, a considerable change has taken place in this course of trade, owing to the facilities afforded by steam-navigation; and large numbers are now fattened in the eastern and northern counties of Scotland, and forwarded to London direct from Leith, Dundee, Aberdeen, and other ports, and from the western ports to Liverpool. Of Irish cattle, about 100,000 are annually imported into the Mersey. Large quantities are likewise carried into the Bristol Channel, and fattened in the adjoining counties, particularly Somersetshire.

The characters which indicate a disposition to feed, in the ox, are described by Professor Lew to be—the fineness of the bones,—the largeness of the body, as compared with the limbs, neck, and head,—the broadness of the chest,—the roundness of the body,—and the soft and elastic touch. The last is a property with which all graziers are familiar. They call it a mellow feel, the meaning of which it is more easy to conceive than define. The form of animals that are best fitted to secrete and yield milk is somewhat different. “A dairy cow, like a feeding animal, should have a skin soft and mellow to the touch,—should have the back straight, the loins broad, the extremities small and delicate; but she should not, as in the case of the feeding animal, have the chest broad and prominent before. She should rather have the fore-quarters light, and the hind-quarters relatively broad, capacious, and deep; and she should have a large udder.” (Pp. 505, 533.)

“The parts of an ox to which the term *offal* is usually applied, are the head and feet, the tallow, the hide and horns, and the entrails.” “The tallow is generally considered to be of the same value, weight for weight, as the flesh of the four quarters; and so likewise is the hide. These and the other parts termed *offal* are commonly regarded as forming about one-fifth of the value of the animal. When beef is said to be sold at a certain price, *sinking the offal*, the meaning merely is, that the whole price of the animal is reckoned upon the carcass alone; hence, when beef is sold at a certain price, sinking the offals, that price is more than if it were sold without including in it the price of the offals. That portion of the ox which is used for food, exclusive of the offals, is usually termed the quarters, because the animal, on being cut up, is divided into four parts or quarters. The most esteemed parts for food are the hind-quarters. These weigh somewhat less than the fore-quarters; though the more perfect the form of the animal is, the more nearly do the fore and hind quarters approach in weight. Practice enables persons to judge of the weight of animals by the eye alone; but it is convenient to be able to ascertain the weight by measurement. This may be done with considerable correctness in the following manner:—When the animal is standing in a natural position, measure his length in feet from the foremost upper corner of the shoulder-blade, in a straight line to the hindmost point of the rump; then measure the girth or circumference immediately behind the fore-legs; multiply the square of the girth by the length, and this product by 238, which will give the weight of the quarters in stones of 14 lbs. each.” “Another method of ascertaining the weight of fat cattle is by weighing them when alive, and multiplying the gross weight by 605” (Lew, p. 519). The present average dead-weight of bullocks is estimated by Mr Youatt at 656 lbs., and of calves, 144 lbs.

By 31 Geo. II. c. 40, no salesman, broker, or factor employed in buying cattle for others, shall buy for himself in London, or within the bills of mortality, on penalty of double the value of the animals bought and sold; and drovers in London, and within 5 miles round, must be licensed, and wear a badge, according to regulations made by the mayor in 1831, pursuant to 21 Geo. III. c. 67. Cruelty is repressed by 3 Geo. IV. c. 71, and other acts; and the felonious killing or maiming of cattle by 7 & 8 Geo. IV. c. 30.

The importation of cattle is prohibited by 2 & 3 Wm. IV. c. 52, § 58.

BUFFALO CATTLE (*Bos bubalus*) are plentiful in Italy, North America, and eastern countries; also (*B. Caffer*) in the Cape Colony; but they are not reared in this kingdom. The buffalo is well-suited for heavy draught, and the milk of the female is good; but the flesh is held in less esteem than that of the ox.

CATTY, the Chinese pound, equal to 1½ lb. avoirdupois.

CAUTIONARY OBLIGATION, in the law of Scotland, is a term applied to a species of bond, which serves the part either of a mercantile guarantee, or of an English bond of security under seal covenanting in a penalty if a party do not perform certain stipulations. In its former capacity, the nature of the contract will be discussed under the head of GUARANTEE, and its application to one important branch of commercial law has been considered under the head of CASH-CREDITS. It will be sufficient on this occasion to give a view of the legal privileges which make the adoption of this form of security desirable. The Scottish courts not being restricted, like those of common law in England, to the awarding of money for breach of agreement, a bond of cautionary, instead of stipulating for a sum of money being paid, and releasing the surety if certain specifications are duly performed by the principal, first enumerates the obligations to be performed, and then binds the cautioner to see them done, or to pay a sum of money. It is a privilege of the cautioner that means shall have been taken to exact performance from the principal before he can be had recourse to; but to obviate inconvenience arising from this practice, it is not unusual for the cautioner to be bound as a principal along with the primary debtor. When there is more than one cautioner, each is liable for the

AR (Fr. *Caviar*. It. *Caviaria*. Ger. *Kaviar*. Rus. *Ikra*), a substance in Russia from the roe of the sturgeon and other large fish. The roe is first its membranes and washed in vinegar or white wine. It is afterwards the air, salted, and the liquor being removed by compression in a bag, it is soaked in kegs. When good, it is dry and of a brown colour, and is generally with oil and lemon juice. Caviar is highly esteemed in Russia, and the country is very great. The best is made on the shores of the Caspian. A considerable quantity is exported from the ports of the Black Sea to Italy, but only a portion is brought to this country.

CE, a name applied to several distinct kinds of forest trees. The cedar of is a valuable species of pine (*Pinus cedrus*), cultivated in gardens and this country on account of its majestic appearance, but seldom for economic purposes, as it is slow of growth, and requires a free space for circulation. The wood has a fragrant odour, and is so bitter that no insect will—a circumstance which accounts for its great durability. The cedar of was, in ancient times, much employed in religious buildings, and most are familiar with the descriptions given of it for this purpose in Scripture. is still to be found thinly scattered in the elevated valleys of Lebanon, and other mountain-chains in Asia Minor. A second species (*P. deodara*) the Himalayan mountains, where it is regarded by the natives with great

other kinds of cedar do not belong to the pine family. The white cedar of (*Cupressus thyoides*) is employed for hoops, small boats, and roofing, but great value. The Barbadoes cedar (*Juniperus Barbadiensis*) is a large for shipbuilding. The red cedar (*Juniperus Virginiana*) of North America the West Indies is of great size and valuable. The wood is close, dark odoriferous, and is much employed for cabinet work, wainscoting, and in manufacture of pencils.

is imported in considerable quantities from Jamaica, the Bermudas, Barbadoes, Cuba, and New South Wales.

RY (*Apium graveolens*), a sweet and wholesome vegetable, of which several varieties. The blanched footstalks of the leaves are used as an

The red variety is coarse but hardy, and well adapted for stews and Celeries is a turnip-rooted variety, occasionally imported from Hamburg.

INT is a substance used for joining or covering bodies, in order to keep from being acted on by fire or some other agent. Its nature differs of course from the purpose for which it is employed.

NER, a name applied to the hundredweight or quintal in Germany and

REAL AMERICA, formerly the Spanish captain-generalship of Guatemala republic, situated on the isthmus which connects N. and S. America, 16° and 18° N. lat., and 82° and 94° W. long. It is bounded N. by Mexico, E. by the Atlantic, S. E. by New Granada, and S. and S. W. by the Pacific, 150,000 sq. miles. Population, whites (Spanish Creoles), 475,000; 625,000; ladinos or mulattoes, 740,000; total 1,900,000. The republic is made up of five states, Guatemala, Salvador, Honduras, Nicaragua, Costa-

ponding difference in its climate and productions. Its vegetable products include not only those of tropical countries, but nearly all those of Europe, besides others peculiar to itself. It also possesses mines of the precious metals, which, though but little encouraged under the Spanish dominion, are said to be increasing in their products. Gold is found in Costa-Rica, and silver in Honduras. The great staples of the federation, however, are indigo, cochineal, sarsaparilla, hides, mahogany, cedar, dye-woods, sugar, rapadura or panela, a species of brown sugar principally used for the distilling of spirits, cotton, vanilla, and Peruvian balsam. The indigo is chiefly grown in the state of Salvador, along the Pacific; it is of excellent quality, and formerly about 1,000,000 lbs. were exported; but the civil wars having reduced its cultivation, a late account estimates the crops at from 500,000 to 750,000 lbs. The Nopal trees, on which the cochineal insect subsists, grow in the plains near the city of Guatemala, where the quantity collected in favourable seasons has amounted from 200,000 to 250,000 lbs. The cotton grown along the Pacific is of excellent quality; it is, however, always exported in an indifferent state, from not being properly freed from the seed. Good tobacco is grown in the hilly districts; but it is the subject of a government monopoly, and its cultivation being limited to certain places and to a certain amount, little is exported. Besides these articles, brimstone is collected from certain volcanoes, and salt is made on the north-western coast. Other parts of the republic are said to afford mother-of-pearl and tortoise-shell. Manufactures of coarse cotton and woollen goods, hats, crockery, furniture, and other common articles, are carried on to some extent, chiefly in Guatemala.

Central America is placed in a favourable position for commerce. The exports chiefly consist of specie, indigo, cochineal, and brazil-wood, with other articles in small quantities; the whole amounting annually to about \$4,000,000.

The imports from Britain are cotton and woollen fabrics, hardware, and other dry goods. Silks, wines, spirits, and trinkets are brought chiefly from France and Spain; and Chinese productions are brought in American vessels to Acajutla.

The ports on the Pacific are La Independencia, Acajutla, La Libertad, Conchagua, Realjo, and San Juan del Sur; the bay of Conchagua also forms a safe and commodious harbour. The ports on the Atlantic are Isabel, Omoa, Truxillo, San Juan, and Cartago. Isabel, situated on Golfo Dolce, is a safe and good harbour. The government has several times contemplated the project of uniting the Pacific with the Atlantic by rendering the river San Juan on the eastern side navigable into the lake of Nicaragua, requiring a lockage of 200 feet in about 17 miles, and cutting a canal from the lake into the Pacific, a distance of barely 20 miles.

Measures and Weights, same as SPAIN.

Money.—Accounts are stated in pesos or current dollars each of 8 reals. The Central American hard dollar is of equal weight and standard with the Spanish. [MEXICO.]

Finances.—The revenues are derived chiefly from the customs duties and the tobacco monopoly; their present amount is not known. The public debt consists of a domestic debt of \$3,500,000,

and a debt of £167,000, contracted in England in 1825. The latter was negotiated at 73 per cent.; and interest was to be paid at 6 per cent.; but none has been received since Feb. 1, 1828.

Duties.—These were stated in 1836 to be 3 per cent. on the produce of the soil exported; and 14 per cent. on cotton goods, and 10 per cent. on most other articles imported.

CERTIFICATE. [CUSTOMS.]

CERTIFICATE, in the bankrupt law of England and Ireland, is a testimonial on the part of a certain proportion of the creditors that the bankrupt has surrendered and conformed himself to the acts. It is the authority for discharging the bankrupt. As to the rules for granting the certificate, and its special effects, see BANKRUPTCY.

CERUSE, or WHITE LEAD, is a carbonate of lead, usually made by suspending thin plates of lead over heated vinegar, the vapour of which corrodes the metal, and converts it into a heavy white powder. The process is most destructive to the health of the manufacturer. White lead mixed with oil is a common paint. In medicine it is employed as a dressing for sores; and, notwithstanding its deleterious qualities, has been used as a cosmetic.

CESSIO BONORUM, in Scotland, is the process by which the effects of an insolvent debtor, who does not come under the system of sequestration applicable to traders, is divided among his creditors. This system, which may be traced to the civil law as practised throughout Europe, has long existed in Scotland, and its practice there seems to have been the model on which the earlier English insolvency acts were framed. [INSOLVENCY.] By the law as it stood till lately, the debtor applying for the benefit of cessio must have been a month in jail, but by the late act, any debtor imprisoned or against whom a writ of imprisonment for a civil debt is available, may apply. The process formerly could only be pursued before the Inner House of the Court of Session; but it may now proceed either before the Sheriff of the county, or before the Outer House of the Court of Session, subject, in certain circumstances, to a reference to the Inner House. There are provisions for the production and examination of the debtor and his books and other vouchers. The debtor will be liberated or protected from imprisonment during the process, unless the court see reason to the contrary. A list of the creditors with their debts must be inserted in the petition, and they must receive notice either by post-paid letters, or judicial writs, to appear at the examination. When decree of cessio is granted, it has the effect of conveying the debtor's whole property to a trustee for

distribution among his creditors. In the case of his holding an annuity or office, an equitable deduction is made from his income. By the decree of cessio, execution of all existing writs against the debtor is barred, but in the event of any pecuniary improvement in his condition, he is still responsible for his debts. The process of cessio is a privilege to the debtor,—the creditors cannot force him to submit to it. (1 & 2 Viet. c. 110. *Burton's Manual*, 594-600.)

CEYLON, a magnificent island belonging to Great Britain, lying near the S. point of India, from which it is separated by the Gulf of Manaar. Extreme length from N. to S. 270 miles; average breadth, 100 miles. Area, 24,664 square miles. Population (1835) 1,231,000, of which 9000 were whites; the remainder chiefly Singalese, Malabar Hindoos, Moors, and Vedahs. The island is divided into five provinces, each subdivided into districts. The chief town, and seat of government, is Colombo, pop. 31,549. The administration is vested in a governor, assisted by executive and legislative councils.

Ceylon is an island of the highest natural capabilities,—having great varieties of soil, climate, and situation,—vegetable and other indigenous productions in excellent quality,—and considerable facilities of internal and foreign communication. In 1836, about 1,676,000 acres of land were cultivated or in pasture, and 2,818,000 acres waste; of the former, 464,580 acres were sown with paddy, 108,460 acres with fine grains, and 1,070,480 acres in pasture. Of its mineral wealth little is known; iron and plumbago are abundant; and, according to some authors, gold, silver, and mercury are found in the hill streams. Nitre and nitrate of lime have been obtained; also alum and sulphate of magnesia. Salt is found in natural deposits, is also formed artificially in several parts, and yields a revenue of about £30,000. In the deposits or "leways" of Hambantotte, it crystallizes spontaneously, and of the finest quality, in quantities which might be sufficient for the supply of the greater part of the Malay Islands. Ceylon is also rich in precious stones; the gems most esteemed are the ruby and cat's-eye, but there are likewise found the amethyst, topaz, garnet, cinnamon stone, sapphire, and diamond; and the pearl and chank fisheries in the Gulf of Manaar are among the most celebrated in the world. [PEARL.] The chief commercial production, however, is cinnamon, grown in the S. E. portion of the island, and of which article it has almost a monopoly [CINNAMON]; but the cocoa-nut is perhaps the most valuable product of the island. Mr Martin states, that from Colombo to Tangalle, a distance of 100 miles, plantations of cinnamon, amidst groves of cocoa-nut trees, skirt the whole coast for ten miles from the seashore. Besides these articles, rice, cotton, tobacco, coffee, sugar-cane, pepper, cardamoms, and areca-nuts, are raised in various places, chiefly in the southern and central districts; while a great part of the interior, especially in the northern division, is covered with dense forests, in which teak abounds, and where also calamander, ebony, satin, rose, sappan, iron, jack, and other cabinet and fancy woods, are found in rich profusion. The most valuable animal in Ceylon is the elephant, which is of enormous size, and has been found in flocks of from 100 to 200; they are used for a variety of purposes; the ivory obtained from them, however, is not very considerable. The manufactures are nearly confined to arrack, salt, coir, cordage, oil, coarse cloths, and the smelting of a small quantity of iron in the interior.

The commerce is not very extensive, but it has increased during the last few years, since the abandonment of the Dutch monopoly system,—an improvement which was effected under the auspices of the late governor, Sir R. W. Horton. The exports to Britain chiefly consist of cinnamon, coffee, and cocoa-nut oil; besides which, there are sent plumbago, cordage, cardamoms, pepper, horns, tortoise-shell (chiefly from the Maldives), ebony and satin wood; and the imports principally of British manufactures. The exports to India and the British colonies consist of areca-nuts, arrack, tobacco, chiefly sent to Travancore, coffee, salt, cocoa-nuts, timber, hookah shells, coir, nipera lath, bêche de mer, sharks' fins, and fish-oil; and the imports, of rice (brought in large quantities from India), cloth, sugar, opium and other drugs. In 1835, the estimated value of the exports to Great Britain was £79,596; to British colonies, £63,632; to the United States, £400; to foreign states, £15,272; total (exclusive of the produce of the pearl-fishery, estimated at £40,000), £158,900; the principal articles being coffee, £59,046; cinnamon, £21,809; cocoa-nut oil, £12,100; cocoa-nuts, £6784; areca-nuts, £10,497; and arrack, £7217. In the same year, the amount of imports from Great Britain was £69,997; from British colonies, £251,894; from United States, £103; from foreign states, £30,082; total, £352,076; the principal articles being cloth, £116,259; rice, £115,605; paddy, £23,937; and wheat, £7202. In 1836, the amount of exports had increased to £308,703, including £228,501 to Great Britain; the imports to £411,167, including £93,257 from Great Britain.

The chief ports are Colombo, Trincomalé, and Point-de-Galle.

Colombo, in lat. 6° 57' N., long. 80° E., where nearly the whole maritime trade of the island is carried on, is a handsome town defended by a strong fort mounting 300 cannon. It has a wooden quay adapted for vessels not exceeding 100 tons; larger vessels anchor in the small semicircular bay within which the quay is built, or in an outer roadstead, which, however, is safe only during the N. E. monsoon from November to the end of March. The climate is salubrious. The mean daily variation of temperature is from 76° to 86½° Fahr.

Trincomalé, in lat. 8° 32' N., long. 81° 17' E., 150 miles N. E. from Colombo, is also strongly fortified; and the harbour, described by Nelson as the finest in the world, is accessible at all seasons, the depth of water being so great that vessels may lie alongside the rocks in perfect safety.

Point-de-Galle, in lat. 6° 1' N., long. 80° 10' E., distant 78 miles S. S. E. from Colombo, is another excellent and strongly fortified harbour.

Measures and Weights.—The chief native measures are the amomam of 8 parrabs or 192 seers = 5½ Winchester bushels; the last = 6½ Winchester quarters. The leaguer of 75 welts or 200 canades = 150 English wine gallons. The British measures of length and surface are used. The Candyan land-measure is the amomam of 4 peylas or 40 coornies = 2 acres 2 roods 37½ perches. British weights are used for foreign commodities. The candy or bahar = 500 lbs., and the garce = 82 cwt. 2 qrs. 16½ lbs. avoirdupois.

Money.—Accounts are now generally stated in pounds, shillings, and pence sterling. Formerly they were kept in rixdollars of 12 fanams, 48 pice, or 144 challes = 1s. 6d. sterling. The circulating medium is composed of notes for £1 and upwards, issued by the colonial treasury, and payable in specie on demand; also of rixdollars, British silver and copper coins, Spanish dollars,

rupees, copper fanams, and cowries or little shells which are used in small payments by the natives.

The Public Revenue of Ceylon, in 1835, amounted to £371,698, and the expenditure to £323,277; but this last was exclusive of an expenditure of about £130,000, incurred in Britain on account of the island.

Ceylon is said to have been the chief mart for eastern commerce in the sixth century. In 1505, it was first visited by the Portuguese, who in 1518 subdued the maritime provinces. In 1638, the Portuguese were expelled by the Dutch, from whom again the island was wrested by the British in 1796. Until 1815, the English occupied only the maritime provinces, while the King of Candy possessed the interior; but in that year the monarch was deposed, and the whole island has been since under the sway of this country.

CHAIN, a British land-measure divided into 100 parts called links. The English or Imperial chain = 66 feet, and 10 square chains = 1 Imp. acre. The Scottish chain formerly in use contained 74.12 feet.

CHAIN-RULE, or RULE OF EQUATIONS, an arithmetical formula of German origin, which is of great practical utility, particularly in exchange calculations. It is so called from the terms being stated as equations, and connected as it were by a chain, so as to obtain by one operation the same result as by any number of different questions in the rule of three. The principle may be familiarly illustrated as follows:—

Required the number of Roman pauls which may be had for £60 sterling, reckoning £1 = 25 French francs, and 100 francs = 200 pauls.

This case contains obviously two different questions:—

1. If 25 francs be equivalent to £1, how many francs may be had for £60?

$$1 : 60 :: 25 : 1500. \quad \text{Answer, 1500 francs may be had for £60.}$$

$$\frac{1500}{25}$$

$$1)1500(1500$$

If 100 francs be equivalent to 200 pauls, how many pauls may be had for 1500 francs?

$$100 : 200 :: 1500 : 3000. \quad \text{Answer, 3000 pauls may be had for 1500 francs.}$$

$$\frac{3000}{100}$$

$$100)300,000(3000$$

which is evidently the answer originally required, as 1500 francs are equivalent to £60, the original term of demand.

In the course of these operations the term of demand, 60, is first multiplied into 25, then divided by 1, next multiplied into 200, and afterwards divided by 100. But it would obviously produce the same result to collect the multipliers and the term of demand into one product, and the divisors into another, and then to divide the former by the latter. The preceding case may, therefore, be stated thus:—

$$\begin{array}{rcl} & & £60? \\ & £1 & = 25 \text{ francs} \\ & 100 \text{ francs} & = 200 \text{ pauls} \\ \text{And } \frac{60 \times 25 \times 200}{1 \times 100} & = & \frac{300,000}{100} = 3000 \text{ pauls as before.} \end{array}$$

By this mode of arranging the terms, it is obvious that those which would form the divisors in continued statements in the Rule of Three are multiplied together for a common divisor, and the other terms for a common dividend.

The same reasoning may be applied to those cases which involve three or more different questions. Hence the following

GENERAL RULE.—Arrange the several terms into two columns of antecedents and consequents, in this manner:—

1. In the right-hand column enter first the *term of demand*.
2. On the line below, and in the left-hand column, enter the first antecedent, which must be of the same denomination as the term of demand, and equal in value to the corresponding consequent placed contiguously in the right-hand column.
3. Similarly make the second antecedent of the same denomination as the preceding consequent, and equal in value to the annexed consequent, and so on throughout, introducing equations according to the nature of the case, and making the terms lead from one to another, so that the last term may be of the same denomination as the answer required.

Then multiply the antecedents together for a divisor, and the consequents, including the term of demand, together for a dividend, and the quotient will be the answer required.

Example.—Required the price per lb. avoird. of tea purchased in China at 30 taels per pecul of 133½ lbs.; 720 taels being equal 1000 dollars, and the rate of exchange 58 pence per dollar?

Arranging these data according to the preceding rules, we have—

$$\begin{array}{rcl} & & 1 \text{ lb. ?} \\ 133\frac{1}{2} \text{ lbs.} & = & 1 \text{ pecul} \\ 1 \text{ pecul} & = & 30 \text{ taels} \\ 720 \text{ taels} & = & 1000 \text{ dollars} \\ 1 \text{ dollar} & = & 58 \text{ pence} \end{array}$$

$$\frac{1 \times 1 \times 30 \times 1000 \times 58}{133\frac{1}{2} \times 1 \times 720 \times 1} = \frac{1,740,000}{96,000} = 18\frac{1}{4} \text{ pence, the price per lb. required.}$$

The operations are in practice simplified by striking out the same numbers when they occur in

columns; or when terms in different columns are measured by the same number, by the original terms, and using the quotients in their stead. Fractions likewise are generated into whole numbers by multiplying both terms of the equations in which they occur by the denominator. Thus, multiplying the first equation of the preceding case by 3, we have 400 scula.

Operations of this kind are further facilitated by compounding the invariable terms into one fixed number, and applying the variable terms to it as multipliers or divisors, according to the question. Thus, in the preceding case, the invariable terms are 133½ lbs. = 1 ton equivalent 400 lbs. = 3 peculs), and 720 tales = 1000 dollars; and collecting these result separately, and using the antecedents as the dividend, we have $\frac{400 \times 720}{3 \times 1000} = 96$,

therefore form a fixed antecedent or divisor in the above and all analogous cases. In case we shall have simply $\frac{30 \times 58}{96} = 18\frac{1}{2}$ as before.

This rule admits of being applied advantageously to a great variety of cases in commercial arithmetic, but it is in questions of exchange that it is chiefly employed. "Foreign merchants," says the author, "are generally very expert in their application of this rule to commercial commerce; and it is in a great measure to this that their acknowledged superiority in the science may be attributed." (Cambist, vol. ii. Introd. p. vi.) [EXCHANGE.]

CHALDER, a corn-measure in the former Scottish system, which contained 16 **BOLL**.]

CHALDRON, a heaped measure formerly used for coals, lime, fish, potatoes, and other arse commodities, but now prohibited (5 & 6 Wm. IV. c. 63); it contained 36 heaped **BUSHELS**. Also a weight for coals still used in London and Newcastle; the London chaldron = 25½ cwt.; the Newcastle chaldron of 3 wains wt., but estimated for boats at 53 cwt.

CHALK (Fr. *Craie*. Ger. *Kreide*. It. *Creta*. Por. *Creda*. Rus. *Mjel*. Sp. *Yeso*) is a massive opaque carbonate of lime, of a white, grayish, or yellow colour, with a conchoidal fracture. Sp. gr. 2.5. It varies much in hardness, but is generally soft to the touch, and adheres to the tongue. It composes a large portion of the tertiary rocks in the S. of England. When purified by trituration and washing, it is called *whiting* and *Spanish white*. Its uses are well known as a material for manure and cement, in polishing metals and glass, as a pigment, and in painting and whitewashing.

CHALK is a grayish, or bluish-black kind of clay, of a slaty texture, used in drawing and painting. It is found in France, Spain, Italy, and Bayreuth. **CHAMOMILE**, a useful herb (*Anthemis nobilis*), found plentifully in this country, especially on the commons near London. It is celebrated as a bitter; and an infusion of the flower-heads is much used in medicine. The bitter principle is contained in the little yellow flowers of the disk, and the wild blossoms are much more bitter than those of the cultivated sort.

CHAMOMILE of chamomile (*Anthemis tinctoria*) is raised in France for the sake of the bright yellow dye which is obtained from it.

CHAMPAGNE. [WINE.]

CHANKS are shells (*Voluta gravis*) of a spiral form, fished up by divers in the Manaar, on the N. W. coast of Ceylon. There are two kinds, *payel* and *chank*, the red and the other white; the latter is of little value. These shells are exported to India, where they are sawed into rings of various sizes, and worn on the fingers, legs, fingers, and toes by the Hindoos. A third species, opening to the side, is also rare, and very highly valued. The demand for these shells, caused by the religious rites of the Hindoos, was formerly so great, that 60,000 rixdollars per annum were received by the government for the right of fishing them; but the demand has decreased until the revenue became not worth collecting; and the fishery is now free to all.

CHARCOAL, a well-known impure form of carbon, obtained by the destructive distillation of various organic products; its characters and properties vary with the source. *Wood charcoal* is commonly made of oak, chesnut, elm, beech, or ash; soft and resinous woods are seldom used, and young trees answer better for the purpose. It is a black, brittle, solid substance, easily pulverized, perspicuous, and inodorous. *Animal charcoal* is obtained generally from muscle, bone, or similar animal substances. It possesses the same general characters as wood charcoal, but often has a peculiar lustre and sponginess, and appears as if it had undergone fusion. Charcoal possesses remarkable antiseptic properties. It destroys the putrefaction of animal matter; it also destroys the colour and odour of many substances. Common vinegar, by being boiled with it, becomes white; and red wines, rum, or brandy, may be bleached by filtration through charcoal. It is largely employed for this purpose in the process of sugar-refining, and other purposes. *Wood charcoal* has been found most efficacious for these purposes.

charcoal is mostly used for fuel, and in the manufacture of gunpowder. (*Brandé's Chemistry.*)

CHART, a plan or MAP of a sea or coast, constructed for the purpose of ascertaining the position of a ship with reference to the land, and of shaping a course to any place. "The charts used in navigation are those on Mercator's *projection*, because on this alone the track of a ship always steering the same course appears a straight line; and thus all calculations respecting the latitude and longitude of a ship steering a course which cuts all the meridians at the same angle, are reduced to the utmost simplicity." (*Raper's Navigation.*)

CHARTER-PARTY, a branch of the contract of affreightment, is defined a contract, "by which an entire ship, or some principal part thereof, is let to a merchant for the conveyance of goods, on a determined voyage to one or more places" (*Abbot*, 162). It is executed by a deed duly written on a stamp, generally containing specification of the ship and her burden, the amount of freight, the limitation of the agreement by time or voyage, and the time of loading and unloading. The amount of demurrage is generally fixed. [DEMURRAGE.] In England, the execution of a charter-party by the master, though said to be done on behalf of the owners, does not furnish ground for a direct action against them, founded on the instrument. "This depends," says Mr Abbot, "upon a technical rule of the law of England, applicable as well to this as to other cases, and not affected by the mercantile practice of executing deeds for and in the name of absent persons; the rule of the law of England being, that the force and effect which that law gives to a deed under seal, cannot exist, unless the deed be executed by the party himself, or by another for him in his presence and with his direction, or in his absence by an agent authorized to do so by another deed; and in every such case, the deed must be made and executed in the name of the principal." By another technicality, if the agreement bear to be between particular parties, owners of a ship, whereof a certain person named is master, on the one side, and certain persons named, on the other, the master cannot bring an action in his name upon the covenants, nor give a release for them, though he seals and delivers the instrument. If, however, the covenants on the side of the owners bear to be by the master, with their consent, the owners can bring an action for fulfilment, though, unless they seal the deed, they cannot be sued (*Abbot*, 166). "In Scotland," says Professor Bell, "the charter-party is not trammelled by those technical rules which, to a stranger, appear to oppose so many bars to the efficacy of the contract, according to the jurisprudence of England. The contract, when duly executed by the owners or by the shipshusband, or by the master within the limits of his powers, is binding on the owners, and gives action direct in the Court of Admiralty [now in the Court of Session] against all concerned. It also, in general, contains a registration clause, in virtue of which it may be the ground of summary execution, without any necessity for a previous action." (*Bell's Com.* i. 539.)

The most important questions regarding charter-parties generally relate to the risks and responsibilities of parties arising out of the usual perils of the sea; compensation or damage for delays, alterations of the agreement, &c. Information on these subjects will be found under the heads AFFREIGHTMENT, BILL OF LADING, DEMURRAGE, and SHIPPING. (*Abbot and Bell*, ut supra. *Smith's Mercantile L.* 240-243.)

CHATTELS, OR **CATALS**, in the law of England, is an expression used to designate any description of property, moveable or immovable, except such as is, in its nature, freehold, or parcel of it. Chattels are either personal or real. Of the former, are shop goods and wares, household furniture and plate, corn sown, cattle, &c. Chattels real are such as are said to savour of the reality, i. e. which either are landed property or some continuous right issuing out of it, as terms for years of land, the next presentation to a church, &c. (*Jacob's Law Dictionary.*)

CHAYA-ROOT, a small slender root, yielding a scarlet dye, obtained from a plant (*Oldenlandia umbellata*), cultivated on the coasts of Coromandel and Malabar, and in Ceylon. In that island it was once monopolized by the government, but the monopoly has been relinquished. The colouring principle exists only in the bark. It is used in India to paint the red figures on chintz, &c., but is not esteemed by the dyers in this country.

CHECK. [CHEQUE.]

CHECK, a kind of cloth in which coloured stripes cross each other rectangularly. In this country, the checks chiefly manufactured are of a very coarse kind, suited for seamen's shirts, aprons, and common bed-gowns. The two principal seats of the trade are Blackburn and Kirkcaldy, the former in cotton, the latter, till of late, chiefly in linen. [PULLICATES.]

CHEESE (Du. *Kaas*. Fr. *Fromage*. Ger. *Käse*. It. *Formaggio*, *Cacio*. Por. *Queijo*. Rus. *Syr*. Sp. *Queso*), a species of food which consists of the caseous matter of milk, united to a certain portion of the oily or creamy part, which last adds to the flavour and richness of the cheese. Cheese, however, can be made from milk from which the cream has been removed, and it is then termed skimmed milk cheese. It may even be made from buttermilk; but then the creamy part being more withdrawn than in the case of skimmed milk, the cheese wants still more the properties and flavour which are valued. The poorer the cheese is the longer it will keep; but every variety, if well cleared from whey and sufficiently salted, may be preserved for years.

Cheese is made in large quantities in the dairy counties of England, particularly in Cheshire (where the annual produce is about 11,500 tons), Gloucestershire, and Warwick. "Single Gloucester" is made from skimmed milk, "Double Gloucester" from unskimmed,—the best being from the vale of Berkeley. The Wiltshire is equal to the best double Gloucester. The celebrated Cheddar and Bridgewater cheeses are made in Somersetshire; though a somewhat inferior Cheddar is often sold as double Gloucester. The cheeses known by the name of Stilton, which are chiefly made in Leicestershire, and those of Banbury in Oxfordshire, are of superior richness; the former is made by adding the cream of the preceding evening's milk to the morning's milking. Scotland produces little good cheese, except that called "Dunlop," made in Ayrshire and the adjoining counties of Wigtown and Kirkcudbright; the most esteemed is the Wigtown Dunlop. In Ireland only a small quantity is made, and that too of an inferior quality.

The most celebrated foreign cheeses are the Parmesan, a skim-milk cheese chiefly from Lodi in Italy; the Gruyere, from Switzerland, entirely of new milk; the Roquefort, of ewes' milk; and the Neufchatel, made of cream, thickened by heat; the last, a small cheese folded in paper, is imported as a delicacy from France. The foreign cheeses principally used in this country, however, are those from Gouda and Edam in Holland; of these the former is the finest, but the latter keeps longest, and consequently forms an important article in the victualling of ships.

Cheeses are frequently coloured with annatto, the juice of the orange carrot, or the flower of marigold, from the notion that a yellowish tint makes them look richer; Gloucester and Wiltshire cheeses are coloured deeply; Cheshire slightly; but Cheddar, Stilton, and some other rich cheeses are never coloured.

Very little cheese is exported, but the quantity imported is considerable, being about 220,000 cwts., which, with the exception of about 1000 cwts. from Italy, France, and Germany, is brought exclusively from Holland.

CHEQUE is a written order on a banker by a person having money in the banker's hands, directing him to pay on presentment, or to bearer, or to a person named, a certain sum of money. Cheques partake of the nature of bills of exchange, in their indorsibility as the representative of cash. The cheque, however, being exempt from the stamp laws, is limited in its operation, so as to prevent it from performing the functions of a bill of exchange, and, being either a means of raising a credit, or an instrument by which a creditor at a distance from his debtor can convert the debt into a negotiable obligation. Such orders are exempt from stamp only if they be payable to the bearer on demand, and drawn on a banker within fifteen miles of the place where they are issued. The place of issue must be named, and the order must bear date on the day of issue, and must not direct payment to be made by bills or promissory notes (9 Geo. IV. c. 49, § 15. Sched. of 55 Geo. III. c. 184). These rules must be strictly observed. Where a person residing in a private house four miles from a town, dated a cheque drawn there as if drawn in the town, it was held unavailable for want of a stamp (*Waters v. Brogden*. 1. *Young & Jerv.* 457). Cheques are exempted by 7 Geo. IV. c. 6, § 9, from the provision which prohibits bills under £5 from being negotiated in England except under certain restrictions. It is held that, in the ordinary course of business, a cheque cannot be negotiated so as to affect the drawer (*e. g.* in the case of the banker becoming insolvent), after banking hours of the day on which it was issued, but where the drawer is himself instrumental to the delay, he may continue liable to any onerous holder. It is the duty of the person receiving a cheque, whether from the drawer or an indorser, to present it for payment on the day on which he receives it, if it come to his hands early in the day, and otherwise on the day following; if he be at a distance, he should despatch it within the same time, if the Post Office arrangements admit of his doing so. Legal rules on these points cannot, however, be strictly laid down, and the above statements must be held as of a merely precautionary nature. A banker refusing to honour a cheque when he is in funds

to the drawer, is liable in damages ; but he is entitled to act on his own discretion where there are grounds to suspect forgery or fraud. [BILL OF EXCHANGE.]

CHEQUEE, a small Turkish weight. The chequee used in weighing gold, silver, and precious stones, contains 100 dirhems or drams, and is equal 4950 troy grains ; but the chequee for goat-wool contains 800 drams, and that for opium 250 drams.

CHERRY, the well-known fruit of a tree (*Cerasus*), of which the Horticultural Society's Catalogue enumerates about 220 varieties. The cherry orchards of Kent are celebrated. The wood of the tree is close, takes a fine polish, and some sorts are adapted for tool-handles and cabinet-work.

"Several liqueurs are manufactured from cherries. A large black cherry is used in the composition of the *Ratafia* of Grenoble ; and the *Maraschino* of Zara is prepared from a particular species of cherry cultivated in Dalmatia. *Kirschwasser*, which is a cheap spirit, forming a considerable article of commerce, is the fermented liquor of a small black cherry." (*Veg. Substances*, l. p. 341.)

CHESNUT, SWEET OR SPANISH (Fr. *Châtaignes*. It. *Castagne*. Sp. *Castanas*), is a dark-brown, ovate, sharp-pointed nut, or coat, containing a nutritive starchy kernel, of a sweet flavour, which is extensively used as food, either raw, roasted, ground, or otherwise prepared, in Italy, Spain, and the S. of France, where the tree (*Castanea vesca*) chiefly abounds. It is used in this country in a roasted state at desserts. The quantity annually imported fluctuates from 15,000 to 30,000 bushels.

The sweet chesnut is grown in several parts of England, but the fruit is of an inferior kind. The tree in a wild state sometimes attains an extraordinary size : On *Ætna* there is one called the hundred-horse chesnut, from its being able to contain 100 mounted men in its hollow. The timber is considered to be of equal value to that of the oak, and is applied to the same purposes.

HORSE CHESNUT (*Æsculus*) is a handsome tree, much used for ornamental purposes in this country, but as it is soft and spongy, its value is limited.

CHETWERT, OR TCHETVERT, the principal Russian corn-measure, equal 5½ Imp. bushels nearly.

CHICA, a plant (*Bignonia chica*), growing on the banks of the Orinoco, from the leaves of which an orange dye is extracted. It is occasionally to be met with in the form of round cakes. In America it is used by the Indian tribes to stain their skins.

CHICORY, OR SUCCORY, is a hardy perennial plant (*Cichorium intybus*); found either in a wild or cultivated state in most parts of Europe. It has a strong and fleshy root, which when young is celebrated for its use as a substitute for coffee, — a purpose for which Dr Duncan thought it might be advantageously cultivated in this country. Its preparation consists merely in being cut into pieces, dried, and ground. The substitution of chicory for coffee was greatly encouraged by Bonaparte, in order to harass the trade of England ; and the root is still thus used in many parts of Germany, Holland, and Switzerland. In this country it is well known to be extensively employed in the adulteration of coffee.

CHILLIES are long roundish taper pods, obtained from a shrubby plant (*Capsicum frutescens*), cultivated extensively in the East Indies. The pods are filled with a dry loose pulp, and contain many small, flat, kidney-shaped seeds. Their taste is extremely pungent and fiery ; their colour when ripe is a bright orange red. They are occasionally imported dry, and are used as a condiment. They form the basis of Cayenne pepper and curry powder. The fresh capsicums used in Europe are chiefly procured from a species (*C. annum*) found wild in the W. Indies and S. America.

CHILI, a narrow country extending nearly 1200 miles along the W. coast of S. America, betwixt lat. 25° and 44° S. It is bounded N. by Peru, E. by the Argentine Republic, S. by Patagonia, and W. by the Pacific. Area, including the Archipelago of Chiloë, but excluding the portion of Patagonia claimed by Chili, 130,000 sq. miles. Population 1,200,000, chiefly Spanish-Americans and Indians. It is divided into eight provinces. Capital, Santiago, a handsome inland city ; pop. 60,000. The government has a republican form ; the legislature consists of a senate and house of representatives ; and the executive power is vested in the hands of a supreme director.

The lofty chain of the Andes runs along the whole eastern boundary of Chili, and the country below is composed, to a considerable extent, of valleys, surrounded by high mountains or ridges. The climate varies much in the different districts, but it is every where salubrious, and in the central provinces is similar to that of Italy. Rain occurs seldom except between May and August. Spring begins in September, and the hottest months are January and February. The northern provinces are in general dry and sterile, destitute of wood, but rich in minerals. On the other hand, the southern provinces are humid, highly fertile, and abound in fine timber, but are much less rich in minerals. The chief metallic productions of Chili are gold, silver, and copper, but the sterile condition of the provinces in which they are principally found prevents them being worked except where very rich. Gold is obtained both from the sand of the rivers and from mines ; the total

"Son of Heaven," and absolute lord not only of China, but of the world. A peculiar character, however, is given to the constitution, by a provision for securing intelligent functionaries in the different branches of administration. These must be persons elevated to the dignity of *quans* or mandarins, by their proficiency in learning. The highest class reside at the capital, as state councillors, public censors, or as members of the six *pous* or boards, to whom are confided the different branches of administration; and from the other classes are chosen provincial governors and subordinate officers.

Chinese Tartary and Thibet are comparatively thinly peopled territories, inhabited by wandering and semi-barbarous tribes, who are held as tributaries, or under loose military government, without any attempt to impose on them the laws and general character of China itself. The source of the vast wealth of the state is to be found in China Proper, the local features of which are understood to possess the same character of vastness which generally distinguishes the empire. Her provinces equal our kingdoms, her towns our capitals, her villages most of our cities; yet all these are pervaded by a certain sameness approaching to monotony. The number of provinces is eighteen, and these are subdivided into districts, each dependent on one of the great cities. These last, according to their importance, are arranged in three classes, generally expressed by the terms *fou*, *tcheou*, and *hien* annexed to their names; as, Kai-fong-fou, Lan-tcheou, Yuen-hien. The northern, central, southern, and western provinces possess each peculiar and distinctive characters.

1. *The Northern Provinces*, Pe-che-lee, Shan-tung, and Shan-see, consist of very extensive plains, rising on the N. and W. into mountains or high table-land, which form the lower declivity of the lofty chain that traverses Mantchoo Tartary. The winter is extremely rigorous compared with that of European countries under the same latitude; so that all the rivers, not excepting the largest, are then frozen. Hence, though the summers are proportionally hot, the more valuable articles of rice, silk, and tea, which constitute the pride of Chinese culture, cannot be reared; even wheat does not successfully resist the cold, and millet is therefore the standard grain. The high grounds wear somewhat of a pastoral aspect, and support several domestic animals, which have been banished from the more cultivated provinces. The fine manufactures that distinguish China are also unknown, though there are some remains of the woollen fabrics in which she anciently excelled. The mineral products consist of iron, large quantities of coal, with lapis-lazuli, and other varieties of beautifully coloured stone. This district contains the capital, Peking, which is situated in Pe-che-lee; and its northern boundary for 1500 miles is the celebrated Great Wall, composed of two parallel brick walls, twenty-four feet in height, and twelve feet apart, the interval between which is filled with earth, and towers are erected at distances of 300 or 400 feet.

2. *The Central Provinces* consist of Kiang-nan, Tche-kiang, Kiang-see, Ho-nan, and Hou-quang. The first and the last have each been divided into two; yet the original appellations of both are still retained, and they form decidedly the finest part of the empire. All its most valuable productions, all its finest fabrics, are here reared or manufactured. This territory consists, with little interruption, of an immense plain, through the midst of which flows the great river Yang-tse-kiang, while the numerous tributaries which fall into it from both sides, as well as those flowing northwards to the Hoang-ho, render it one of the best-watered regions upon earth. Indeed, the excess of moisture, as it renders some districts marshy, is the chief disadvantage under which it labours. Kiang-nan is the province in which the riches and beauty of this part of China are most amply displayed; all the products of nature and art being carried to a perfection unequalled in any other. The rice and wheat are excellent; the silk is rivalled only in Tche-kiang; cotton is nowhere so good. The song-lo or green tea, the most delicate of that species, grows only on the hills of Kiang-nan, and in Tche-kiang, chiefly the former. The people are said to be more intelligent, and Nan-king, its chief town, was in former ages the capital, and still is the literary metropolis of the empire, and its finest city. It is celebrated for its porcelain tower, and for its flourishing manufactures;—the satins; the cotton cloth bearing its name; and its ink and paper, which are superior to any made elsewhere. Tche-kiang, the rival of Kiang-nan, forms, in a great measure, a continuation of the same vast plain, equally fertile and beautiful. In particular, it is completely pervaded by rivers and canals, covered with innumerable barks. All the tropical productions flourish here to a great extent; but that of silk is particularly distinguished for its quality and abundance. The commerce and manufactures of its capital, Hang-tcheou-fou, rank it with the greatest cities in China. Silks, particularly flowered taffetas, and different kinds of satin, are its peculiar staple. Kiang-see, though to a considerable extent mountainous or marshy, shares in some degree the manufactures of the neighbouring provinces, but is chiefly distinguished for the finest porcelain, which is exclusively confined to King-te-tching, one of its towns, said to contain 1,000,000 inhabitants. The other provinces in this district are less distinguished for their productions, whether natural or artificial.

3. *The Southern Provinces* are composed of Quang-tung, or Canton, Fo-kien, and Quang-sea. These consist of the level country intervening between the sea and the extensive mountain-chain which is prolonged from the Himmaleh, along the whole south of China, with an elevation diminishing in its progress eastward, and which forms a steep barrier separating them from the rest of the empire. High ranges also shoot across them, and terminate in rugged cliffs. In the intervals, however, are many valleys, and even extensive plains, that rival the finest of the central provinces, and are cultivated with equal diligence, though they yield no very valuable productions, except the bohea tea, reared chiefly on the hill-slopes of Fo-kien. The manufactures are various and actively pursued, yet none of them can match those of Nan-king, Hang-tcheou-fou, and King-te-tching. The coast, however, is the seat of nearly all the foreign trade of the empire. Its position relative to the eastern peninsula and archipelago, its fine harbours, even the ruggedness of many of its districts, seem to have united in turning the industry of the people into this direction. Canton is the well-known seat of the trade with Europeans and their possessions in India; while the Chinese junks sent to the neighbouring coasts and islands are almost all fitted out from the ports of Fo-kien. A bolder and more enterprising race, addicted to maritime adventure and even to emigration, inhabits these shores.

4. *The Western Provinces* bordering on Tartary are Shen-see, Kan-su, Se-tchuen, Kooi-tcheou, and Yun-nan, but our knowledge of them is more imperfect than of any other quarter. Ac-

according to every description hitherto received, their aspect, productions, and social state differ very widely from those of the other parts of the empire. The mountains are much loftier; and their recesses are occupied to a great extent by the Miao-tse, Lolos, and other independent and almost savage tribes. This region, however, is not altogether sterile or unproductive; there are some extended plains, and the mountains are generally interspersed with rich and beautiful valleys. The store of metals and minerals is particularly ample, including gold, silver, and copper. On the hills of some districts are rhubarb and other medicinal plants; and among the numerous wild animals is the one which yields musk. The rivers afford commodious channels for transporting these articles through the whole empire.

Besides these eighteen provinces on the continent, the Chinese possess various islands on the coast; the principal, Formosa, being on the west, and Hainan on the south. The former is mountainous, and inhabited by barbarians, apparently of Polynesian origin. The latter is considerable, and is occupied in the interior by rude natives, and on the coast by the Chinese, rearing productions similar to those of the adjoining coast of Quang-tung.

The Chinese have been represented as averse to all traffic; but more accurate information seems to establish the fact that no people are more solicitous to acquire riches, or less fastidious as to the means; and that the wealthy class are as desirous as in any other land to procure whatever appears to them useful or agreeable, without any scrupulous inquiry as to how or whence it comes. *The Internal Trade* of this vast country constitutes by far the most important part of its commerce. The variety of climate and productions throughout the empire renders the provinces mutually dependent upon each other, and affords ample scope for exchange; while the traffic is increased by the circumstance that the court, and with it the great body of opulent families, is resident at Pe-king, near the northern frontier, and in a country which yields scarcely a single article of elegance or luxury. Tea, the universal beverage, though produced in almost every province, is not to be found of fine quality except in the few districts already mentioned. Rice is raised only in the central and southern divisions, whence the whole consumption of the north must be furnished. Sugar is confined within nearly the same limits. The silk and cotton manufactures are carried to perfection only in the great cities of Kiang-nan and Tche-kiang: porcelain only at King-te-tching. Timber grows only on the mountains, and chiefly on the southern range. Salt, a government monopoly, exists in mines as well as rock springs, but is principally procured from sea-water on the eastern and southern coasts. Huge stacks or rather hills of salt seen at Tien-tsin were estimated by Mr Harrow to contain 600,000,000 lbs. Although these are the principal commodities, there are obviously many others, the conveyance of which, on a scale requisite for the wants of so vast a population, must give occasion to a very extensive commerce. This great trade is conducted almost entirely by means of water communications, consisting not only of the great rivers, particularly Hoang-ho and Kiang-ku, with their tributaries; but also of canals, with which almost the whole empire is furrowed, and upon which the Chinese have made the most lavish display of their industry and resources. The principal is the Imperial Canal, which extends 500 miles in Shan-tung and Kiang-see. Compared with this grand system of water-communication, land-carriage is little regarded, and few of the roads are better than footpaths; though when one does become actually necessary to connect any of their points of intercourse, the inhabitants spare neither labour nor cost in making it complete. The coasting trade is discouraged by government on account of its diminishing the internal transit-dues. It is, however, pretty extensive; and centres chiefly in Amoy, Fou-tcheou-fou, and other ports of Fo-kien, which form a link between the northern and southern provinces. Ning-po and Sha-poo in Tche-kiang, and Shang-hai in Kiang-nan, are also extensive ports. At the latter, which ranks next to Canton in commercial importance, the officers of the Amherst in 1832 saw, in 7 days, 400 junks of from 100 to 400 tons burden enter from the north bringing flour and pease. There are several other emporia along the northern coast, particularly Tien-sing in the metropolitan province of Pe-che-lee. In the southern provinces, Ching-hai, about 200 miles E. from Canton, is the seat of a flourishing commerce. The towns to the westward are of secondary importance, and very little known.

The External Commerce is inconsiderable when compared to the great resources of the country. This has arisen partly from the variety of productions and manufactures exchanged by means of the vast internal trade, but chiefly from the intercourse with Europeans being prohibited except at the single port of Canton, a port most unfavourably situated for foreign commerce, from its lying on the south coast, far removed from the most fertile and populous provinces, and at the farthest extremity from the metropolitan province. The policy of thus confining the European trade to a place so little suited to its extension, is attributed to the desire of the Chinese government to remove the danger of foreign quarrels from the neighbourhood of the capital, and to derive the largest possible revenue from transit-dues. In the early period of European intercourse with the east, a more liberal spirit prevailed, and the English East India Company possessed factories both at Tay-wan in Formosa, and at Amoy. Owing to losses sustained at these establishments they were after some years abandoned, and the trade removed to Canton. The oppressive exactions at the latter place induced the English to re-open the communication with Amoy; but in 1757, all attempts of this kind were foreclosed by a decree of the Emperor Kien-long, strictly limiting European intercourse to Canton. Since that time various endeavours have been made by the British and other European states to improve their commercial relations with China, but without success. Lord Macartney's embassy in 1792 failed in procuring more than some slight relaxations at Canton; and Lord Amherst's in 1816 led to no result whatever; partly it has been said from his lordship's refusal to perform the celebrated homage of the *ko-fou* to the emperor, though it would appear that this was done "in full solemnity" by a Dutch ambassador in 1794, with no other result than contempt for his servility.

Exports.—The staple export of the empire is tea. [TEA.] As already noticed, the black tea is obtained chiefly from Fo-kien, and the green from Kiang-nan; but of late years the cultivation of the former for exportation has extended to Quang-tung, and of the latter to Tche-kiang. The traders generally begin to arrive in Canton early in October with the crop of the season; though with the exception of the kinds most in demand, teas may be had throughout the year. In November the trade may be considered at its height. Teas are exported principally to Europe (particularly Great Britain) and the United States; besides which, a considerable quantity is sent to our possessions in India and Australia; and a much larger to every country of Asia which contains Chinese emigrants,—such as the Annam Empire, Siam, and the Eastern Islands. The Russians, who are prohibited from trading with the Chinese by sea, receive their supply over-

land, as do all the Tartar nations, who have acquired a great relish for this article. The commodity next in importance is raw silk, which is raised and manufactured in the provinces of Kiang-nan, Po-kien, Tche-kiang, and Quang-tung; but the silks brought to Canton are those of Kiang-nan or Nan-king, and of Quang-tung only; and the first is generally double the value of the last. There is no article which shows in a more remarkable manner than this the capacity of extended production possessed by China. The British exports, which form by far the most considerable part, and which averaged only, under the East India Company, about 94,000 lbs. until 1834, when the trade was opened to private adventurers through the medium of Singapore, having now increased to 1,400,000 lbs., without producing any sensible advance in the price of the article. The next commodity, if rated according to its importance, is sugar, which is of two descriptions,—clayed or soft, and sugar-candy; this last being the nearest approach to the refined variety yet made by the nations of the East. The only manufactures for foreign trade are in Quang-tung and Po-kien; and, in so far as refined sugar is concerned, the produce of the former is fully 75 per cent. better than that of the latter. The quantity exported is from 8000 to 9000 tons. In former times, the shipping of this article was confined to a small portion sent to the western coast of India, and it is only within the last 25 years that it has been brought to Europe. Nan-king cloth still continues to be exported in large quantities; also manufactured silks, notwithstanding the improvement made in this branch of industry in Europe. The principal purchasers of the latter are the Americans, who export to the amount of about \$1,500,000. Cassia-tigee and cassia-buds are produced abundantly in the forests of Quang-tung and Quang-see, and about 4,000,000 lbs. are exported by the British and Americans. Camphor, found also in the forests of Quang-tung, is exported largely, but the quantity varies much from year to year. There are likewise brought to the market of Canton rhubarb, musk, aniseed, turmeric, orpiment, galangal, and cinnamon.

The superior industry of the Chinese as compared with other Asiatic nations is proved by their extensive exportation of manufactured articles. To those already enumerated the following may be added; alum, white lead, red lead, brass leaf, tuterague or zinc, false-pearls, glass-beads, paper, paper-hangings, toys, table and floor mats, and china ware, with the precious metals. Alum is prepared in the distant province of Kiang-see, which supplies, we believe, the whole east with this mineral. The paper of China is greatly inferior to the European fabric, but being much cheaper, it is used even in our Indian settlements for all ordinary purposes. Their porcelain was largely exported before the western nations borrowed the art, and is still an important article of commerce, especially to the Eastern Islands, Siam, and Annam. The total value of manufactured articles exported by the English and Americans in 1834, exclusive of raw silk, refined sugar, and bullion, amounted to nearly £500,000.

Of late years bullion has been very largely exported from China. In 1834, the quantity of silver exported in British shipping amounted to \$6,217,820; and of gold to \$513,795, making together, at 4s. 2d. per dollar, £1,402,420. Of this the amount of native or *sycee* silver was \$5,119,304; and if to it be added the export of native gold, we shall have a total export of the precious metals, the produce of that country, equal to £1,197,035.

China, besides exporting native productions, is also an entrepôt for those of the neighbouring countries, and occasionally even for the manufactures of Europe, India, and America. Among these may be mentioned mother-of-pearl, tortoise-shell, cloves, canes, and rattans; dragon's-blood, and cubebs, the produce of the Eastern Islands; gamboge, procured in Cambodia; sulphure and opium, the produce of India; and cochineal and copper from America.

The principal articles carried to Great Britain in the year 1838 were,—38,908,572 lbs. tea; 702,677 lbs. raw, and 18,840 lbs. thrown silk; 21,870 pieces bandanas, &c.; 8451 shawls, scarfs, and handkerchiefs; 3399 pieces taffetas, damasks, &c.; 55,811 lbs. rhubarb; 44,142 lbs. cassia; 5852 lbs. cinnamon; and 59,038 pieces of cotton. The American exports, which, next to the British, are by much the most important, amount annually to about \$9,000,000, or £1,875,000, of which nearly two-thirds are in tea.

The imports may be divided into those from continental India,—those from the Eastern Islands, Annam, and Siam,—those from Great Britain,—those from America,—and those from other countries.

Of the imports from continental India by far the most important is opium, though the use of this well-known drug is prohibited by the laws. [OPIMUM.] In the year 1817-1818, the quantity imported was 2433 chests, but in the year 1835-1836, it had increased to 26,018 chests, amounting in value to \$17,106,903, or £3,563,938, probably the largest sum given for any raw article supplied by one nation to another, if we except the raw cotton furnished to Great Britain by the United States. The next article of importance is cotton-wool, one of the oldest branches of trade between the countries, and, until opium took the lead, by far the most considerable. The market for this production is not supposed to extend beyond Quang-tung and Quang-see, where it is said to be chiefly made into quilting-cloths, to be used as winter dresses. The cotton fabrics of India have never, however, found a market in China,—the people having no fancy for fine muslins, while the ordinary Indian cottons are neither so substantial as their own, nor so much cheaper as to create a demand. The other articles imported are of inferior value; they consist of black pepper, in small quantity, from Malabar; catechu from Pegu; myrrh and olibanum, productions of Arabia; asafoetida, procured in Persia; putchuck from Guzerat; also saltpetre, sandal-wood, sharks' fins, fish-maws, bezoar, pearls, and carnelians.

The following tables exhibit for a series of years the course of trade between China and the different presidencies, according to the valuations thereof in the Indian accounts, estimating the rupee at 2s. sterling:—

IMPORTS INTO CHINA FROM INDIA.

Years.	Bengal.		Madras.		Bombay.		Total.	
	Merchandise.	Treasure.	Merchandise.	Treasure.	Merchandise.	Treasure.	Merchandise.	Treasure.
	£	£	£	£	£	£	£	£
1832-1833.....	1,180,830	3,200	33,103	..	1,489,989	..	2,703,222	3,200
1833-1834.....	1,323,685	3,743	34,411	670	2,205,942	..	3,564,038	4,413
1834-1835.....	1,270,770	1,125	40,484	..	1,560,855	..	2,872,109	1,125
1835-1836.....	2,019,183	2,295	172,234	1,312	2,945,674	880	4,437,091	4,487
1836-1837.....	1,912,172	3,392	270,063	1,519	3,286,626	880	5,448,660	5,791

CANTON, or QUANG-TCHOU-FOU, the emporium of the foreign trade, is seated in lat. $23^{\circ} 7' N.$, long. $113^{\circ} 14' E.$, on the N. side of the Choo-kiang or Canton river, 80 miles distant from the open sea. Vessels in the regular trade proceed first to Macao [MACAO], at the entrance to the estuary, where they are reported to a Chinese officer, who, on receiving satisfactory answers to his inquiries, grants a permit for them to pass through the Bogue (or mouth of the river). They then proceed upwards to Whampoa, the shipping station, situated about 14 miles below Canton. The city is walled, and with the suburbs, which are nearly of equal extent, contains a population of about a million. Europeans are not admitted within the gates; their business is transacted at factories situated in the S. W. suburb, on a muddy flat contiguous to the river. There are at present four factories, the British, American, Dutch, and French; the first is the least objectionable, but all are incommodious. They belong to a body called the *Hong* or licensed merchants; of whom every vessel is required to have one as security for the duties, and for the conduct of the crew. These merchants never hesitate to undertake the responsibility for any ship that offers; and although the law declares that foreigners shall trade with them only, this is evaded by the purchase of a small quantity of goods from one of their number, and, under a sort of license from him, a traffic is then openly carried on with the *outside merchants*, or natives generally. Shipmasters are required to declare that they have brought no opium.

Trade is conducted with punctuality and despatch. The number of foreign merchants is about 100, mostly British, or Americans, with Parsees and Mohammedans from Bombay and Surat. Their residence at Canton, however, is only allowed during the business season, commonly from October until the setting in of the westerly monsoon in the beginning of March. During the remainder of the year they reside at Macao.

The public affairs of the Americans, French, and Dutch are managed by consular agents, who, although not publicly recognised by the imperial government, are virtually so by the provincial administration, which transacts all business with them through the hong merchants. The British intercourse is regulated by the act 3 & 4 Wm. IV. c. 93, which appointed three commissioners for its superintendence, but whose duties have been since devolved on one, who has power to issue directions respecting commerce, and for the government of our countrymen in China and within 100 miles of its coast. Section 8 of the act provides that a duty on tonnage not exceeding 5s. per ton, and on goods not exceeding 10s. per cent. *ad valorem*, may be levied on shipping, in order to defray the expenses of the establishment.

MEASURES, WEIGHTS, MONIES, DUTIES, &c.

Measures and Weights.—The covid of 10 punts = 14.625 inches, or 32 covids = 13 Imp. yards; and the li of 180 fathoms = 632 Imp. yards; 200 lis = 1 degree; there are no measures of capacity, liquids and grain being sold by weight.

The tael of 10 mace, 100 candareens, or 1000 cash, = 583½ troy grains (but in weighing money estimated at 579.84 grains); the catty of 16 taels = 1½ lb. avoird.; and the pecul of 100 catties = 133½ lbs. avoird. Hence 3 peculs = 400 lbs. avoird., 84 catties = 1 cwt., and 12 taels = 1 lb. avoird.

Money.—Accounts are stated by foreign merchants in dollars and cents; but by the Chinese in taels (*leang*), of 10 mace (*leen*), 100 candareens (*fun*), or 1000 cash (*le*), which, except the last, however (a small piece of copper and zinc with a square hole in the middle), have no representatives in coins, and are rather money weights. The tael is the weight (1.208 oz. troy) of *sycee*, or silver reputed to be pure, and as such would be worth about 6s. 6d.; but it is commonly valued among foreign merchants according to its rate of exchange for dollars. In converting taels of account into dollars, 720 taels are reckoned equal to \$1000; though in weighing money 717 taels are reckoned for \$1000, making the value of the tael of dollar silver about 5s. 10d. This is, however, subject to variation.

The fineness of the precious metals is expressed by dividing their weight into 100 equal parts called *touch*,—an ingot of 94 touch being understood to contain 94 parts of pure metal and 6 of alloy. The *sycee* silver used in ingots, as a substitute for money, is never perfectly pure; in commerce it is seldom found above 96 touch. That received of late years for opium at Lintin has been found to contain a considerable admixture of gold, which has enhanced its value.

Remittances to China may be made either direct or in bills on Calcutta, Madras, or Bombay, to be sold in Canton. At Canton, bills on London are drawn at 6 months' sight, the usual rate being about 4s. 10d. per dollar.

Duties and Port Charges.—The export and import duties are always paid by the Chinese, so that they appear mixed up with the price of the articles, and the foreigner only knows that they exist. In the Canton commercial guide there is a list of the duties on a few articles. These are specified taxes upon the quantity; and a few examples of their operation as *ad valorem* duties may be here given, taking prices as they stood in 1834. The duty on English iron amounted to 18 per cent.; on Indian cotton wool, 14 per cent.; on Bohea tea, 20 per cent.; and on Congou, 10 per cent.

Vessels at Whampoa are subject to a variety of charges; on the *Glenelg*, of 867 tons burden, the whole were stated by Mr Martin to amount to 4959 dollars; of which, measurement charge, \$2363; cumshaw or present, composed of entrepôt, clearance, and other fees, \$2223; fees to linguist and comprador, pilotage, bar-boats, &c. \$373. But vessels loaded with rice are exempted from the measurement charge; also from the entrepôt and leang-tous fees, comprising the greater part of the cumshaw.

The heaviness of the port charges, particularly on small vessels (the cumshaw being the same on all), joined to the contraband nature of the opium trade, have led to an extensively organized system of smuggling at Lintin. At this island, situated at the mouth of the river, small vessels transship their cargoes into large ones; ships are also stationed here with rice, which they sell in sufficient quantities to vessels newly arrived, to exempt from port charges. It is likewise the chief seat of the opium trade, and ships are constantly lying as depôts for the drug. Many other smuggling vessels lie at the same station; and even the price current states articles as deliverable in the course of the regular trade and in that by smuggling indiscriminately. All this contraband traffic is conducted in the presence of the imperial fleet,—a sufficient proof, if any were wanting, of the corruption of the native officers.

In the preceding article, we have confined our attention to the course of trade as it existed prior to the seizure of the British superintendent, Captain Elliot, by Commissioner Lin, in April 1839. A narrative of the hostile operations which followed that event would be out of place here; but should any new arrangements be made with the Chinese government before the work is completed, they will be noticed in a supplement. For other details we refer to the articles *Opium* and *Tea*.

CHINA-ROOT, a large tuberoso knotty root, of a dark reddish-brown colour on the outside and reddish-white within, produced by a species of smilax (*Smilax China*). It was formerly imported from China, and employed in medicine, but of late years it has been much neglected by European practitioners. Various species of smilax are common in Jamaica, where the root is in great repute, and held equal in quality to the oriental kind. (*Ainslie's Mat. Indica*.)

CHINCHILLA, a little quadruped (*Chinchilla lanigera*) celebrated for the beauty of its fur, which exceeds in warmth and softness that of any other animal, and has long been known as an expensive and useful article in the dress of ladies. The fur, or rather wool, is of an ash-gray colour, and sufficiently long for spinning. In length, the creature is six inches from the nose to the root of the tail, with small pointed ears, a short muzzle, teeth like the house-rat, and a tail of moderate length. It belongs to the *Rodentia*, or gnawing animals, and lives in burrows under ground, in the open country, in the northern provinces of Chili. [FUR.]

CHINTZ (Du. *Sits*. Fr. *Indiennes*. Ger. *Zitze*. It. *Indiane*. Por. *Chitas*. Rus. *Sis*. Sp. *Chites*, *Zarasa*), a peculiar style of fast-printed calico, in which figures of many different colours are impressed upon a white or light-coloured ground.

CHLORATE, or **OXYMURIATE OF POTASH**, an interesting compound of chloric acid and potash, which, when strongly triturated, crackles, throws out sparks, and becomes luminous. It is extensively manufactured in consequence of its use in the preparation of light-matches, and a detonating priming for firearms having percussion-locks.

CHLORIDE OF LIME, or **BLEACHING POWDER**, is prepared by passing chlorine into chambers containing fresh slacked lime in fine powder, by which the gas is copiously absorbed, with extrication of heat. It is a dry white powder, possessing a faint odour of chlorine, and a strong penetrating taste. When agitated with water, a portion is dissolved; and the solution, called *bleaching liquor*, contains both chlorine and lime. This compound is extensively used as a bleaching material. Its power for this purpose, and consequently its commercial value, may be estimated by its action upon a solution of indigo of known strength (*Ann. of Phil.* xxiv. 218). The composition of bleaching-powder is variously stated. "A specimen of chloride of lime of the best quality usually sold in London, consisted of 1 equivalent of chlorine, 2 of lime, and 2 of water" (*Brande's Chemistry*). Chloride of lime is also used for fumigation, from its possessing the property, when exposed to air, of checking contagion or destroying noxious effluvia.

CHLORIDES OF POTASH AND SODA.—These compounds likewise possess bleaching properties, but the price of the alkalis has led to their being superseded for general purposes by the chloride of lime, though they are still used by some bleachers and calico-printers for their more delicate processes. The chloride of soda is also employed as a substitute for ashes in various manufactures.

CHLORINE, the most energetic of the chemical elements, is obtained by the action of muriatic acid on peroxide of manganese. When pure, it is a greenish-yellow coloured gas, which has an astringent taste, a peculiar, disagreeable odour, and violently irritates the nostrils, windpipe, and lungs, when inhaled. The solution, which is made by transmitting a current of chlorine gas through cold water, has the colour, taste, and most of the other properties of the gas itself. Of these, the most important is its bleaching power; it is also a powerful antiseptic, and destroyer of contagious matter and of bad odours; and hence forms an important ingredient in many useful substances.

CHOCOLATE (Fr. *Chocolat*. Ger. *Schokolade*. It. *Ciocolata*. Por. & Sp. *Chocolate*), a kind of paste or cake, chiefly prepared with the triturated cocoa-nut (*Theobroma cacao*) after having been roasted, and other ingredients, the chief of which are sugar, vanilla, and a little cinnamon. It abounds with nutritive matter, but contains an oil which is of difficult digestion. A small quantity only is used in this country, which is nearly all of British manufacture. Foreigners generally prefer the Spanish chocolate, but ours is made with more care, and is less oily.

CHOSE IN ACTION, an English law term, denoting that kind of property of which the owner is not in the actual occupation, though he has a legal right entitling him to obtain the possession by a suit.

CHROMIUM, a metal resembling iron in colour, brittle, and difficult of fusion. Sp. gr. 5.9. It is rarely to be found in its metallic state, but several of its compounds are used in the arts. In commerce, it chiefly occurs in the forms of chromate of iron and chromate of lead.

CHROMATE OF IRON, a compound of oxide of chrome with protoxide of iron, is

found in Unst in Shetland, in France, and near Baltimore in America. It occurs massive, and in octahedral crystals of a blackish colour, and imperfect metallic lustre. Sp. gr. 4.3. It is used in the manufacture of chromate of potash.

CHROMATE OF LEAD, or *Red Lead*, is found native in the gold mines of Berezof in Siberia, in the Ural Mountains, and in Brazil, and is easily prepared by mixing chromate of potash with a soluble salt of lead. It occurs massive and crystallized; colour deep orange-red; when pulverized, orange-yellow. Sp. gr. 6. It is a valuable pigment, and is used both in oil and water colours, in calico-printing, and in dyeing.

CHROMATE OF POTASH is a salt of a bitter disagreeable taste; crystals yellow. Sp. gr. 2.6. The *Bi-chromate of potash* is prepared from the chromate; it has a bitter penetrating metallic taste. Sp. gr. 1.98. This salt is largely manufactured in Glasgow, for the use of calico-printers.

The other compounds chiefly in use are the *Oxide of Chromium*, employed to give a green colour to glass and to porcelain, and *Chromic Acid*, which, from its property of destroying most vegetable and animal colouring matters, is advantageously employed in calico-printing.

CHRONOMETER. [WATCH.]

CHRYSOBERYL, a gem much prized when transparent and free from flaws. Its colour is green, sometimes with a yellow or brownish tinge, and occasionally presenting internally an opalescent blueish-white light. It occurs crystallized, and in rolled fragments. Sp. gr. 3.7. Localities, Connecticut, Ceylon, and Brazil from whence the finest specimens are procured. (*Phillips*.)

CHRYSLITE, an ornamental stone of a bright yellow colour, sometimes tinged with green or brown; transparent or translucent; and possessing double the power of refraction. It is found in angular, or somewhat rounded crystalline masses, and in prismatic crystals. Sp. gr. 3.4. The best specimens are brought from Egypt.

CHRYSOPRASE is a rare pale-green calcedony, found in Upper Silesia and Vermont, which owes its colour to the presence of nickel. It loses the delicacy of its original hue by being much handled or worn as an ornament: it is, however, much prized by jewellers, and usually cut into a convex form.

CHUNAM, in oriental commerce, is quicklime made from calcined shells.

CIDER (Fr. *Cidre*. Ger. *Zider*, *Apfelwein*), the wine of the apple, is made in large quantities in the English "cider counties," which lie something in the form of a horse-shoe around the Bristol Channel. The best are Worcester and Hereford on the N., and Somerset and Devon on the S. In Ireland, it is made of good quality in the counties of Waterford and Cork. Generally speaking, those apples that are considerably astringent, and are unfit for the table or culinary purposes, make the best cider. From 24 to 30 bushels of fruit are required to make a hogshead, the price of which varies from £2 to £5, according to season and quality. The harvest is in September, but the liquor is not fit for sale until March; it improves by keeping. Cider is made in Germany, Belgium, and Normandy; and in the United States it may be considered as the common beverage of the great body of the people, except in large towns.

An annual license to retail cider in England is granted by the Excise, on an application similar to that required for a beer license [BEER], the payment being £3, 3s., if the liquor is to be drunk on the premises; £1, 1s., if it is not (4 & 5 Wm. IV. c. 85, and 3 & 4 Vict. c. 61). The duty of 10s. a-barrel on cider was repealed in 1830.

CINCHONA. [PERUVIAN BARK.]

CINNABAR (Fr. *Cinnabre*. Ger. *Zinnober*. Sp. *Cinabrio*. It. *Cinabro*), a mineral ore, consisting of mercury combined with sulphur, from which quicksilver is generally obtained by distillation. A similar compound, prepared artificially and powdered, forms the pigment termed VERMILION.

CINNAMON (Du. *Kaneel*. Fr. *Cannelle*. Ger. *Zimmet*, *Kanehl*. It. *Canella*. Sp. *Canela*. Por. *Canella*), a valuable aromatic bark obtained from a small tree, a species of *Cinnamomum*, found in Ceylon. The tree is seldom peeled before the ninth year, and the proper time is from May to October. After the bark is removed, it is firmly bound up for about 24 hours, during which time it undergoes a kind of fermentation, which facilitates the separation of the outer bark from the epidermis and green matter under it, which are carefully scraped off the Ceylon cinnamon. The substance then speedily dries, contracts, and assumes a quilled or pipe appearance. These pieces or quills are inserted into each other, the smaller being surrounded by larger ones. It is then carefully examined, sorted, put up into bundles, and wrapped in double cloths made of hemp. The interstices between the bales are filled with black pepper, a mode of packing originally practised by the Dutch, and scrupulously adhered to by the English, as it is said to

both spices. The best Ceylon cinnamon occurs in pieces about 40 in., each containing from six to eight quills or rolls. It is of a light brown, nearly as thin as paper, smooth, shining, admits of a considerable bending before it breaks, fracture splintery, has a pleasant warm aromatic slightly astringent, with a mild degree of sweetness. When chewed, the pieces are soft, and seem to melt in the mouth. Other varieties of cinnamon trade are coarser and thicker, and are not so pungent and sweet. The uses of cinnamon as a spice for seasoning, are well known. It is, besides, of the materia medica, but is chiefly employed as an accompaniment to medicines.

Cinnamon and cassia differ from each other in little except the degree in which the aromatic principle exists in them. There are many contradictory statements as to the species of *Cinnamomum* from which they are obtained. According to the most authorities, cinnamon is obtained from two distinct species, but it is uncertain which out of several yields cassia. The best cinnamon is from the *C. Zeylanicum* (Blume) indigenous only to Ceylon, but cultivated in Brazil, Guiana, and elsewhere; and that of China is said to be the produce of *Aromaticum* of Nees Von Esenbeck.

Cinnamon is often adulterated with cassia or cassia-lignea, but the latter may be distinguished by its fracture being smooth, and by its slimy mucilaginous about any of the roughness of true cinnamon. It is also sometimes mixed with iron filings which have been deprived of their essential oil,—a fraud which can be distinguished by the weaker smell and taste.

Cinnamon is supplied with this article almost wholly from Ceylon, of which it forms the principal export. It was formerly the subject of a monopoly, but though this is now abolished, it is still liable to the excessive export duty of 3s. per lb., levied by the Government. As cassia lignea, however, can now, since the opening of the Suez Canal, be obtained at Canton for about 3d. per lb., this cheap commodity is coming into its own, for many purposes, for the superior cinnamon of Ceylon. The quantity of the latter annually imported averages about 500,000 lbs. The annual consumption in this country at present is, however, only about 16,000 lbs. The quantity imported is re-exported chiefly to Germany, Holland, Belgium, France, Italy, West Indies, United States, and Mexico.

In the London market four qualities of cinnamon are distinguished, the price of which in bond in 1841 (Jan. 1841) from 3s. 3d. to 7s. 9d. per lb. (cinnamon weighs 92½ lbs. avoirdupois).

CINNAMON-OIL, one of the most powerful stimulants in the materia medica, is prepared from the coarsest part of the bark, by maceration in sea-water, and distilling with a slow fire. The finest has the flavour of cinnamon, and contains a considerable mixture of the clove taste. It is sometimes adulterated with oils of cassia, cherry laurel, or bitter almonds.

CINNAMON-STONE, a precious stone of a red colour, with occasionally a tinge of orange-yellow; translucent, rarely transparent, lustre resinous. It is commonly found in masses, which are full of fissures, and rarely fit for cutting. Chief localities, Ceylon and Brazil.

CINQUE PORTS, a Norman term applied to the towns of Sandwich, Dover, Ramsgate, and Hastings, which were severed by William I. from the administration of the counties to which they belonged, and erected into a kind of jurisdiction, with the view of securing his communications with the Continent, and rendering this maritime line one of the grand outworks of the Kingdom. They were invested with valuable privileges, and placed under the jurisdiction of Dover Castle, with the title of Lord Warden of the Cinque Ports. The original ports were afterwards added, Winchelsea and Rye, and twenty-four subordinate ports or members,—the jurisdiction of the whole collectively extending from Birchington, near Margate, in Kent, to Seaford in Sussex. The jurisdiction of the Cinque Ports was almost entirely broken up by the Parliamentary and Municipal Reform Acts; but the warden still possesses an admiralty jurisdiction, with the execution of writs and custody of debtors.

CIRCULATING MEDIUM, a term applied to "all instruments of interchange by which the productions and the revenues of the country are distributed; every instrument which serves and is received as a mode of payment, or which constitutes the money-price which appears in price-currents." (*Mr Tooke's Evidence, Parliamentary Banks of Issue*, 1840; Q. 3285.)

CIRCULATION is the amount of such currency in use. When the term is used in relation to a bank, it means the amount of its paper issues.

CITRIC ACID is obtained by a chemical process from lemon or lime juice. It forms beautiful crystals, of which the primary figure is a right rhombic prism. They have a sour taste, and are soluble in somewhat less than their own weight of cold and half their weight of boiling water. They also dissolve in alcohol. The average proportion of citric acid afforded by a gallon of good lemon juice is about 3 oz. This acid is prepared by a few manufacturers upon an extensive scale. It is employed by calico printers: while in the form of lime juice it is used as an antiscorbutic, and in preventing scurvy. With salifiable bases it forms salts called *citrates*, which are applied to various purposes. (*Brandé's Chemistry.*)

CITRUS (Fr. *Citrus* *verre*. Ger. *Succade*. It. *Confetti di cedro*. Sp. *Acitron verde*), the fruit of the *Citrus* *verre*, a tree growing in Madeira, Spain, Italy, Persia, and other places. The fruit is oblong, five or six inches in length, warted and furrowed with a rough yellow rind, and a subacid but edible pulp. It is chiefly valued, however, for the fragrance of the rind, from which a delicate sweetmeat is prepared. There are a great variety of citrons. The *fingerved citrons* are a large kind, much esteemed by the Chinese, who place them upon porcelain dishes, and have them in their apartments to fill the air with fragrance. Another variety is in great demand by the Jews, who use it as a conserve at their Feast of Tabernacles. Citrons are generally imported in salt and water, and sometimes preserved with sugar.

CIVET, a valuable perfume obtained from the civet cat (*Felis civetta*), a native of Brazil, Guinea, Madagascar, and the East Indies; but of which numbers are kept for commercial purposes in Holland. This perfume is produced by both sexes, and is contained in two cavities or pockets placed beneath the tail; these cavities are smooth internally, and covered with numerous small pores, connected with the glands from which it is secreted. It is of a clear yellowish or brownish colour, about the consistence of honey, and uniform throughout. Undiluted, the smell is offensively strong, but when mixed with other substances, it becomes what some consider a fragrant perfume. Civet was formerly in high repute in Europe, but is at present little used, excepting in the composition of some kinds of perfumery, to increase the power of other scents. When genuine it is worth from 30s. to 40s. an ounce.

CLAFTER, a name given to the fathom in Germany and Switzerland.

CLARET, a name given in this country to the red wine of Medoc, imported from Bordeaux, or more commonly a mixture of that and the wine of Benicarlo, in Spain, or some full-bodied French wine. In France, *Claret* is a general name for all rose-coloured wines. [WINE.]

CLEARING A SHIP is registering her name and cargo, on leaving a port, in the books of the customhouse.

CLEARING-HOUSE. [BANK.]

CLOCK (Fr. *Horloge*. Ger. *Wanduhr*, *Uhr*, *Grosse-Uhr*), a timepiece constructed on the same general principles as the watch, but having its motion regulated by a pendulum, instead of a balance and spring. The early history of clocks is enveloped in obscurity; but the invention of the pendulum clock is supposed to have occurred about twenty years after the discovery of the isochronal property of the pendulum by Galileo in 1639. Many of the most important improvements on the machinery of the clock have been the work of Englishmen; of these may be mentioned the anchor escapement of Clement, a London clockmaker, in 1680, Harrison's pendulum, and Graham's dead-beat escapement. The chief seat of the clock manufacture of the United Kingdom is London. As in the case of watches, the different parts of the mechanism of the clock are made by different sets of workmen, and polished and adjusted by others. The foreign clocks imported into the United Kingdom consist chiefly of German or Nuremberg wooden clocks. [WATCHES.]

Clockmakers are bound to engrave upon the dial-plate their name and residence.

The importation and exportation of clocks and watches are regulated by the act 3 & 4 Wm. IV. c. 52, §§ 58 & 104. [CUSTOMS.]

Clocks and watches for *private use*, however, not being marked in the manner required by the said act, may be admitted on payment of the proper duty, upon the party making a declaration of his entire ignorance of the law at the time he purchased the clocks and watches, and that they are for his own private use. (*T. O. September 4, 1828.*)

CLOFF, the name given to a small commercial allowance or deduction (commonly 2 lbs. per bale), made from the original weight of some kinds of commodities on their sale. It is now nearly obsolete.

CLOVER-SEED (Du. *Klaver-zaad*. Fr. *Semence de trèfle*. Ger. *Kleesaat*), the reduce of a plant (*Trifolium*) of which there are two principal kinds: *red clover*, biennial; and *white* or *Dutch clover*, a perennial. Red and white clover seeds are largely imported from Germany, Holland, Belgium, France, and the United States; and about 100,000 cwts. are annually entered for home consumption. As the foreign seed frequently contains weeds, its quality should be examined by pressing the moistened thumb to the sample, and looking to the colour and lumpiness of the seeds which are turned up.

An acre of clover will, on good land, produce about three tons and a half of dry hay; of which two tons will be procured from the first cutting, and one and half from the second; on highly manured land, greater crops are obtained.

CLOVES (Du. *Kruidnagelen*. Fr. *Clous de girofle*. Ger. *Gewürznelken*. It. *Chiofani*. Por. *Cravos da India*. Sp. *Clavillos*. Rus. *Gvosdika*), the unexpanded dried flowers of the clove-tree (*Caryophyllus aromaticus*), a native of the Moluccas. They have somewhat the form of a nail. Their colour should be of a deep pitch-brown, internally reddish; their smell strong, peculiar, and agreeable; and their taste warm, acrid, and aromatic. The best are large, heavy, brittle, but not rumbley, and when pressed, exude a little oil. When light, soft, wrinkled, dirty, stale, and without smell or taste, they are to be rejected, having probably been steeped in water before being dried (*Duncan's Dispensatory*). Europe was for a long time supplied exclusively from Amboyna, where the cultivation of the spice is monopolized by the Dutch; but the clove-tree has now been carried to most of the tropical parts of the world, and particularly to Sumatra, and the western parts of the Indian Archipelago, to Guiana and Brazil. It is also cultivated in Mauritius; but the cloves are of inferior quality. Those of Amboyna are reckoned the best. The average quantity of this spice entered for home consumption is about 100,000 lbs.

CLOVE-OIL. Cloves yield by distillation nearly one-sixth of their weight of essential oil, of a deep red colour, having the flavour of the clove, but comparatively milder. Sp. gr. 1.034. It is a powerful stimulant.

COACH, CARRIAGE. The coachmaking trade is carried on principally in London and Edinburgh, and to a considerable extent also in most large towns throughout the kingdom. The number of persons employed in this manufacture is estimated at about 6000. Besides making coaches for sale, a number of manufacturers are partially engaged in the stage-coach business, by lending out vehicles to speculators, and keeping them in repair, in return for about 2½d. or 3d. for every mile travelled. A few are exported to India and other places; but almost none are imported,—a circumstance attributable partly to the state of excellence to which the manufacture has arrived in this country, and partly to the high import duty on foreign carriages.

Mail Coaches are under the management of the Post-office. *Hackney Coaches* are subject to special regulations in different districts: the hackney and stage carriages of London are regulated by the acts 1 & 2 Wm. IV. c. 22, and 1 & 2 Vict. c. 79; the first of which imposes a license-duty of £5 to keep and let to hire any hackney carriage, besides 10s. weekly during the continuance thereof.

Stage Carriages, or all carriages where separate fares shall be paid by passengers for places therein, are subject in Britain to the following duties and regulations, in terms of 2 & 3 Wm. IV. c. 120; 3 & 4 Wm. IV. c. 48; and 2 & 3 Vict. c. 66:—

For every original license to be taken out yearly by the person who shall keep any stage £ s. d.
carriage, namely, for each carriage..... 5 0 0

And for every supplementary license for the same carriage, for which any such original license shall have been granted, which shall be taken out in any of the several cases provided for by the act during the period for which such original license was granted. .0 1 0

And in respect of every mile which any such stage carriage shall be licensed to travel, the following rates of duty per mile, namely,—If licensed to carry not more than 6 passengers, 1d. per mile; more than 6, and not more than 10, 1½d. per mile; and for each 3 additional passengers, ½d. per mile.

The proprietors of railways in Britain shall pay for all passengers conveyed by hire in carriages at the rate of ½d. per mile for every four passengers so conveyed; and they are required to give security that they shall keep regular accounts of the same, and pay the duties. The Treasury is, however, authorized to compound for these duties.

Duties shall attach on every horse let for hire, or used either as a saddle-horse, or for drawing any carriage, and in respect of every horse of any mourning coach or hearse, except for drawing any stage carriage or hackney carriage, going no less than ten miles from the Post-office, nor any fish cart.

Stage carriages, the roof of which shall not be more than 8 feet 9 inches from the ground, and the bearing of which on the ground shall not be less than 4½ feet from the centre of the track of the right wheel to the centre of the track of the left wheel, if licensed to carry not more than 9 passengers, shall be allowed to carry not more than 5 outside; 10 to 12 ditto, 8 outside; 13 to 15 ditto, 11 outside; 16 to 18 ditto, 12 outside; and if licensed to carry any greater

number than 18, shall be allowed to carry not more than 2 additional passengers outside for every 3 additional passengers licensed to carry, under penalty of £5. Driver, guard, and children in lap, not to be counted as passengers; 2 children under 7 years to be reckoned as 1 passenger. No person to sit on luggage on roof, nor more than 1 beside the driver; penalty £5. Justices, road-surveyors, toll-keepers, &c. are authorized to cause carriages and luggage to be measured, and passengers counted.

The other regulations have reference chiefly to the name-plates of the proprietors, and the conduct of the driver and guard.

ASSESSED TAXES ON CARRIAGES.

Carriages with four wheels or more.

PRIVATE CARRIAGES.					
No.	Each Carriage.	No.	Each Carriage.	No.	Each Carriage.
	£ s. d.		£ s. d.		£ s. d.
1	6 0 0	4	7 10 0	7	8 10 0
2	6 10 0	5	7 17 6	8	8 16 0
3	7 0 0	6	8 4 0	9	9 1 6

And so on at the same rate for any number of such carriages.		
For every additional body used in the same carriage.....	£ s. d.	3 3 0
Carriages kept to be let for hire with post horses, each.....	3 0 0	
If drawn by one horse, each.....	4 10 0	
Carriages let by coachmakers without horses, each.....	6 0 0	
Carriages with two wheels.		
Each carriage for private use.....	3 5 0	
Ditto kept for hire with post horses..	3 0 0	
Ditto drawn by two or more horses or mules.....	4 10 0	
For every additional body used in the same carriage.....	1 11 6	
Reduced Duties by 1st Wm. IV. c. 35.		
Four-wheel carriages with each wheel of less diameter than 30 inches, drawn by ponies or mules above 12 hands and not above 13 hands in height, each.....	3 5 0	
Carriages used by common carriers, and occasionally carrying passengers, with 4 wheels.....	2 10 0	
Ditto, with 2 wheels.....	1 5 0	

Exemptions.—Carriages with less than 4 wheels, not kept for hire or profit (except for the conveyance of prisoners or paupers), and drawn by one horse, mare, or gelding, or mule only, and not otherwise, whatever may be the form or construction of such carriage, or the materials with which the same shall be built or fitted up; provided that the price or value of such carriage, together with the cushion or cushions, and every or any other article or thing used therewith, or belonging thereto, shall not exceed, or at any time have exceeded, the sum of £21; but every such carriage must have the name, place of abode, and occupation of the owner, painted in straight lines, in white upon a black ground, or in black upon a white ground, upon the back part of the body of such carriage, or if there be no back part, then upon the panel of the right or off side; or if there be no such panel, then upon some other conspicuous part of such side; or if there be no such side, then upon the outer part of the right or off side shaft, in Roman characters, in words at length, each letter being one inch in height, and of a proportionate breadth, and in such plain and conspicuous manner that the same shall be at all times visible and legible, all in terms of 6 & 7 Wm. IV. c. 65, and 1 Vict. c. 61.

Carriages not let for hire, with less than four wheels of a diameter under 30 inches, where the same shall be drawn by ponies or mules not exceeding 12 hands high.

N.B.—By act 3 Vict. c. 17, an additional duty of 2s. per pound is payable on all assessments commencing 25th May 1840, or any subsequent year, except on “Carriages kept to be let for hire.”

Coaches were introduced into England about 1570, and by the year 1600 were in general use among the wealthy classes. Prior to their introduction, the only mode of travelling by land was on foot, on horseback, or in litters,—the use of the last, however, being confined to the sick, to ladies of rank, or to the carriage of the dead. “When the daughter of Henry VII. repaired to Scotland in 1503, she travelled for the most part on a ‘faire palfrey,’ two footmen in her train, carrying ‘one varey riche litere, borne by two faire coursers varey nobly drest; in the wich litere the sayd quene was borne in the intryng of the good townes or otherways to her good playour.’ At Dalkeith she was met by her future spouse, James IV.; and the royal lovers made their entry into the capital, ‘the kyng monted upon a pallefroy, wyth the quene behynd hym; and so rode therow Edenborough.’” (*New Edinburgh Almanac*, 1839). Hired coaches were first used in 1695; but mail coaches were not introduced until 1785. In 1837 there were 54 four-horse, and 49 pair-horse mail coaches in England. The greatest speed attained by any of these was 10½ miles per hour, the average of the whole being 8½ miles per hour. There were besides 30 four-horse mails, and 5 pair-horse mails in Ireland; and 10 four-horse mails, and 4 pair-horse mails in Scotland. The number of licensed stage-coaches, including mails, in 1837, was 3026; of which about one-half (1517) began or ended their journeys in London. The amount of revenue derived in 1837 from carriages of all kinds (exclusive of that from horses) was £546,236.

COAL (Dan. *Steenkull*. Du. *Steenkool*!cn. Fr. *Charbon de terre*. Ger. *Steinkohlen*. It. *Carboni fossili*. Por. *Carvoes de terra*. Rus. *Ugolj*. Sp. *Carbones de tierra*. Sw. *Stenkol*) is the result of the mineralization of vegetable remains. It exists in many parts of the world, but in none is it produced so abundantly as in Britain. The most important English coal-fields are situated in Northumberland and Durham; but coal is likewise found in large quantities in Wales, Yorkshire, Lancashire, Cumberland, Gloucester, Somerset, and in the midland counties. The Scottish coal-fields are chiefly situated in the Edinburgh and Glasgow districts, in Fife and in Clackmannan. In Ireland coal is worked in the counties of Antrim, Leitrim, and Kilkenny; but the produce of that part of the United Kingdom is not equal to the consumption.

is of different kinds; as, *brown coal*, found at Bovey in Devonshire, and in parts of the Continent; *pitch coal* or *jet*; *glance* or *anthracite coal*, of which coal appears to be a variety; and *black* or *common coal*:—the last being principally found in this country. Dr Thomson has arranged the different coal which are met with in Britain into four subdivisions (*Ann. of Phil.*, &c.). The first is *caking coal*, because its particles are softened by heat, and together, forming a compact mass: the coal found at Newcastle, around Peterhead, and in many other parts of England, is of this kind. The second is *splint coal*, from the splintery appearance of its fracture. The *cherry coal* is found in Staffordshire, and in the neighbourhood of Glasgow: its structure is such that it is more easily broken than splint coal, which is much harder; it easily burns, and is consumed rapidly, burning with a clear yellow flame. The third is *canal coal*, which is found of great purity at Wigan in Lancashire; and it is called *parrot coal*: it emits a brilliant light, possesses a very regular structure, and is peculiarly well fitted for the manufacture of gas. Coal is of a great variety of qualities, as almost every pit has in trade a distinct

employment of this mineral in England as fuel extends little farther back than the 17th century; and it was not until about the reign of Charles I. that it was first used in London and other large towns. Its consumption has since increased with the increase of population and industry, and with the advances in the art of mining. The invention of the steam-engine, the improved mode of working the mines introduced in 1810, and the advantages derived from the lamp of Davy (first used in 1815), have greatly facilitated the working of the mines; and since the commencement of the present century, its consumption has been more than doubled. At present the annual consumption of coal in the Kingdom is estimated at 30,000,000 tons, which, at the rate of 7s. per ton, amounts to £10,500,000,—a sum considerably exceeding the value of the produce of gold and silver throughout the world.

The following table exhibits the quantities shipped coastways, and exported to foreign countries at the different ports in 1839:—

ENGLAND.	Coastways.	Exported.		Coastways.	Exported.
	Tons.	Tons.		Tons.	Tons.
ENGLAND.			SCOTLAND.		
London	2,940	230	Leith	30,469	18,305
South	3,710	6,874	Bornmouth	196,183	33,099
West	74,788	3,058	Grangemouth	60,363	11,151
North	145,067	4,879	Kirkcaldy	46,000	7,138
East	470,890	13,035	Greenock	1,380	16,011
West	486,793	25,684	Port-Glasgow	18	3,768
North	141,839	24,890	Glasgow	101,038	20,733
South	63,221		Irvine	248,417	19,294
East	88,111	3,591	Ayr	73,487	151
West		103,870	Other ports	2,044	904
North	22,686	107			
South	439,188	22,616		660,348	130,865
East	80,141	2,432			
West	1,269	1,372	IRELAND.		
North	2,150,781	258,082	Dublin	225	1,329
South	913,980	370,620	Other ports	1,863	2,306
East	1,308,778	111,707			
West	13,265	28,426		2,088	3,715
North	139,475	4,808			
South	3,808	2,162			
	6,821,877	1,315,137	Totals	7,223,013	1,449,417

7,223,013 tons shipped coastways, 336,968 tons consisted of culm, which was most wholly from Swansea, Llanelly, and Milford, and 13,015 tons of cinders, from Newcastle. All coal sent coastways by sea was, in the reign of Wm. III. subjected to a tax of 5s. per chaldron, which, during the late war, was raised to 6s.; it was reduced in 1824 to 5s., and in 1831 it was repealed; in 1830 the revenue yielded by this tax amounted to £1,021,862.

An act (6 & 7 Wm. IV. c. 109) was passed which repealed certain provisions contained in three previous acts (9 Anne, c. 28; 4 Geo. II. c. 30; and 1 Geo. III. c. 58), by which combinations in the coal-trade to enhance the price were declared unlawful, and which also had the effect of preventing more than two persons from carrying on trade in coals in partnership.

The coal-trade in different parts of the kingdom is regulated by a great variety of local statutes; the shipments from the Tyne by the "Turn act," 6 Geo. IV. c. 32, which provides that every ship must be loaded in her "turn;" and the London trade by the act 1 & 2 Wm. IV. c. 76, as renewed (1 & 2 Vict. c. 101) for 7 years in 1838. The chief provisions of the latter are the following:—

The duties previously payable upon coals commuted for 13d. upon every ton sold within the limits of the city; namely, 8d. per ton payable to the fund for public improvements; 4d. per ton to the corporation of London; and 1d. per ton to the coal market. Coal Exchange to continue vested in the corporation of London; and to be an open market, §§ 3, 4. Court of Aldermen may make by-laws to regulate the market, § 32. Coals to be sold by weight; and the chaldron measure formerly used to be reckoned equal 25½ cwt., §§ 43, 44. With coals exceeding 560 lbs. delivered from any lighter, or from any wharf within 25 miles of the General Post Office, the seller shall deliver to the purchaser immediately on arrival, and before unloading, a ticket specifying the name of the coal, and the quantity; and a weighing machine is directed to be carried with every wagon, and the carman to weigh gratuitously any sack chosen by the purchaser, under penalties of £20, § 47. Coals above 560 lbs. to be delivered in sacks containing either 112 lbs. or 224 lbs. net; coals delivered by gang labour may be conveyed in sacks containing any weight, such being first mentioned, and may be delivered in bulk if the purchasers think fit; but the weight of the cart and coals therein shall be previously ascertained by a weighing machine, and the seller's ticket shall state the weight of the cart and of the coals therein, under penalty of £50.

The consumption of coal in London in the year 1837 amounted to 2,626,997 tons, which, with the exception of 18,735 tons Scotch, 33,259 tons Welsh, and 14,963 tons Yorkshire, were brought almost wholly from Newcastle, Sunderland, and Stockton; the number of vessels which entered the port of London with coals in the same year was 8720. In 1838, the consumption of London was 2,552,321 tons, and in 1839, 2,611,616 tons.

Of late years considerable interest has been excited both in and out of Parliament by a system under which the supply of coals to the London market is limited when the prices are below certain defined rates. It would appear, that for the ostensible object of preventing an undue fluctuation of prices, an arrangement, called "The Limitation of the Vends," has (though subject to occasional interruptions) long existed among the coal-owners in Durham and Northumberland, by which the quantity to be raised from the different collieries is apportioned according to the probable demand. "When," says Mr Brandling, "it is understood by the coal-owners that all the parties interested in the coal-trade on the Tyne and Wear are willing to enter into an arrangement of this nature, a representative is named for each of the collieries; these representatives meet together, and from amongst them choose a committee of nine for the Tyne, and seven for the Wear. This being done, the proprietors of the best coals are called upon to name the price at which they intend to sell their coals for the succeeding twelve months; according to this price the remaining proprietors fix their prices; this being accomplished, each colliery is requested to send in a statement of the different sorts of coal they raise, and the powers of the colliery, that is, the quantity that each particular colliery could raise at full work; and upon these statements the committee, assuming an imaginary basis, fix the relative proportions as to quantity between all the collieries, which proportions are observed whatever quantity the markets may demand. The committee then meet once a-month, and according to the probable demand of the ensuing month, they issue so much per 1000 to the different collieries; that is, if they give me an imaginary basis of 30,000, and my neighbour 20,000, according to the quality of our coals, and our power of raising them in the monthly quantity, if they issue 100 to the 1000, I raise and sell 3000 during the month, and my neighbour 2000; but in fixing the relative quantities, if we take 800,000 chaldrons as the probable demand of the different markets for the year, if the markets should require more, an increased quantity would be given out monthly, so as to raise the annual quantity to meet the demand, were it double the original quantity assumed." (*Par. Paper*, 1830.)*

The criterion by which the coal-owners are guided is the price in the London market. This price, however, is alleged to be very much under the control of the coal-factors, who, it is said, are enabled, by the co-operation of the northern owners, to regulate the number of cargoes to be unloaded, and in this way artificially to elevate the price to the consumer. The regulation of the coal-factors of date 2d February 1837 bears, "That in consequence of the great increase of price of

* The following are the annual proportions which the committee for regulating the issues have apportioned upon the nominal basis of each colliery in the regulation since its establishment:—In 1834, 645 chaldrons per thousand; in 1835, 768 chaldrons; in 1836, 765 chaldrons; in 1837, 770 chaldrons; in 1838, 605 chaldrons; in 1839, 644 chaldrons; and in 1840, 555 chaldrons per thousand.

ing connected with shipping and the coal-trade, the following scale be" namely, to admit from 30th September to 1st March, 40 cargoes, when e 23s. 6d. ; 50 cargoes when they rule from 23s. 9d. to 24s. ; 60 cargoes am 24s. 3d. to 24s. 6d. ; and 70 cargoes at 24s. 9d. From 1st March to 1st ch rate is reduced 6d. ; and from 1st April to 30th September, a further a of 6d. is made on the scale. The price here stated is the wholesale price at the coal-exchange.* According to Mr Pease, the particulars of the cost on of best house-fire coal (as Bewicke, Craister, Wall's End, Gosforth, , and others of a similar quality), from the Tyne, supplied to a London r, assuming the price paid by him to be £1, 12s. 6d., is as follows:—1st, board of a ship in the Tyne, 10s. 6d. ; 2d, Charges at coal-market in including city dues, insurance, &c., 2s. 8d. ; 3d, Freight to shipowner, g harbour dues, &c., 9s. 4d. ; 4th, coal-merchant in London, including g, carting, &c. 10s. ; in all, £1, 12s. 6d. (*Par. Paper*, 1838, No. 475, pp.

thstanding the clamour which has been raised upon this subject, it may be whether any material reduction could be made on the price charged by hern coal-owner, as he is kept in check by the competition of proprietors places, who are not parties to the alleged combination. But the fact cost free on board, in the Tyne, is more than trebled upon the consumer on, shows that abuses must exist in the mode of conducting the trade there; xamination this will be found to be the case. An unnecessary delay occurs scharge of coal-vessels after their arrival in the Thames,—a circumstance ust produce an extra charge for freight ; while, in unloading and in all mt operations, a want of economy is conspicuous, and charges are accu- in a manner without parallel in any other port of the kingdom. In Edin- ituated on elevated ground, 2 miles from the port, the shipping price of ile coal is only about doubled on the consumer.

portation of coals was formerly checked by a heavy export duty of 6s. 5d. upon large, and 1s. 8d. per ton upon small coals ; but in 1831 these duties ified ; and in 1835 (4 & 5 Wm. IV. c. 89) they were repealed, with the n of an *ad valorem* duty of 10s. per cent. when exported in a British ship, 6s. per ton when exported in a foreign ship. No duty is exigible on ts to the British colonies. As coal can be frequently taken as bal- is now exported in increasing quantities to foreign countries. In 1839, itity exported was, as already stated, 1,449,417 tons ; whereof, France, tons ; Holland, 180,348 tons ; Denmark, 129,005 tons ; Germany, 116,678 ussia, 78,054 tons ; Prussia, 83,942 tons ; Italy, 30,279 tons ; Malta, ons ; British America, 50,983 tons ; British West Indies, 64,078 tons ; States, 52,930 tons ; Brazil, 21,066 tons ; other countries, 273,693 tons ; the value of the whole was £542,609.

now necessary to enter into bond for the due exportation of coals to British possessions ; they or any other articles shall be exported in foreign vessels, on payment only of the (under treaties of reciprocity), security by bond shall be given (for the amount of duty r the due landing of the articles so exported in some port of the country to which such ll belong, and for the production, within six months, of certificates by the British consul rt of the due landing of the cargoes, before such bonds shall be discharged: the parties the bond are to be the master and mate of the vessel only, and the stamp-duty on the be remitted to the party. (*Min. Com. Cus. July 12, 1837 ; Treas. Order, Nov. 7, 1837, 12, 1838.*)

tion of Coal.—There is much fallacy in the conjectures which are so frequently l in regard to the duration of our coal-mines. Some persons perceive in tore of fuel laid up for thousands of years, even at the present increasing onsumption ; while others pronounce as confidently that cold and starva- it us before five centuries shall have elapsed. The present vast demand, , would exhaust our known coal-fields in a calculable time, but we have the , or rather unsurveyed, in reserve, to which ingenuity and enterprise will y extend themselves. We have also ground to hope that the present waste a the mine and on the bank cannot always continue, for in the progress of ge we have an assurance, that every year, as it increases the necessity, increase the means of economizing our resources. When we consider the ed effect of coal in the steam-engine since the days of Watt, and the saving

disatisfaction exists among the owners of the best coals in the north with the coal-fac- tion in London, which often precludes the best description of coal from being offered till the inferior qualities have been taken off the market by the coal-merchants, and it is as not improbable that some alteration in the present system will be the result.

of fuel which the introduction of the hot-blast, and of anthracite coal in the smelting of iron, promises to occasion, we cannot doubt that a general rise in the price of coal would stimulate ingenuity to the discovery of other improvements by which equal effects might be produced without increase of cost. Such a stimulus is already in some measure supplied by the economy of fuel which the employment of steam-vessels in long voyages renders necessary, and from this important results must follow. Meantime, the only legitimate end to be aimed at by speculators on the duration of coal, is the prevention of all waste. If, to the best of our power, we husband our resources, we may safely leave to posterity the management of their own interest,—the task of compensating for a diminution of mineral resources by an increase of mechanical skill and ingenuity.

COASTING-TRADE. [COMMERCE. CUSTOMS. SHIPPING.]

COB, a name given in some places to the hard dollar.

COBALT (Fr. *Cobalt*. Ger. *Kobalt*), a reddish-gray brittle metal, somewhat soft, and difficultly fusible; it possesses little lustre. Sp. gr. 8.6. The finest specimens are the produce of Saxony. Cobalt is never employed in a separate state, but the impure oxides of the metal, called zaffre and smalts, are extensively used as colouring materials. *Cobalt blue*, or *Thenard's blue*, is a beautiful pigment prepared from the phosphate of cobalt, which may sometimes be introduced by painters as a substitute for ultramarine. (*Brande's Chemistry*.)

COCA, a shrub (*Erythroxylon coca*) cultivated extensively on the Andes of Peru, on account of its leaves, which, when dried and mixed with burnt lime, form a stimulating narcotic, which is much used by the Peruvians as a masticatory. The use of coca brings on a state of apathy to all surrounding objects, and its effects are of the most pernicious nature, exceeding even those of opium in the destruction of mental and bodily powers. A confirmed coca-chewer, or *coquero*, is said never to be reclaimed. In Peru and Bolivia, the value of this drug prepared annually is estimated at above 2½ millions of dollars.

COCCULUS INDICUS (Fr. *Coque de Levant*. Ger. *Fischkörner*. It. *Galla di Levante*. Malay, *Tuba bidij*. Tam. *Kakacollie verei*. Sans. *Kakamari*), a name given to the berries of the *Menispermum cocculus* (Linn.) of Malabar. They are about the size of large peas, of a gray colour, and wrinkled surface, and contain a kidney-shaped seed within a very thick shell. Four ounces of the nut afford one ounce of the seeds. The shell has little taste, but the seed is poisonous and intensely bitter. *Cocculus indicus* is said to be employed by some brewers as a substitute for hops, though its sale and use for such a purpose is prohibited under severe penalties by 56 Geo. III. c. 58. It is sometimes used externally in medicine. About 2000 lbs. are annually entered for home consumption.

COCHIN-CHINA. [ANNAM.]

COCHINEAL (Du. *Conchenilje*. Fr. *Cochenille*. Ger. *Koschenilje*. It. *Cocciniglia*. Por. *Cochenilha*. Rus. *Konssenel*. Sp. *Cochinilla*, *grana*), a beautiful red dye-stuff, is the female of a small insect (*Coccus cacti*) a native of Mexico, which feeds on the leaves of the *cactus opuntia*, from which it is supposed to derive its colour. After being collected from the plants, they are plunged into boiling water to kill them, and dried in the sun. Cochineal is imported in small rugose inodorous grains, commonly of a deep mulberry-colour, and covered more or less with a whitish down. Those insects are preferred which are dry and plump. In the British market the qualities are distinguished by the names *Black*, *Silver*, and *Foxy*, the respective prices of which, in bond, were recently stated at 8s., 7s., and 6s. per lb. It is liable to be adulterated by mixture with old insects, composed of mere skin, and with spurious grains manufactured of coloured dough; the latter are detected by the action of boiling water, which dissolves them, while it has little effect upon the genuine insect. Care should likewise be taken that the dark colour has not been communicated by art, which may be discovered by the article having, in this case, an unpleasant odour. Cochineal, though affording a crimson solution, is generally used for dyeing scarlet, and is employed chiefly for woollen goods.

The production of cochineal is confined to Mexico and Central America; but, as it comprehends a great value in small bulk, it is frequently used by merchants for remittances, and is thus imported from many other places besides the countries of production. The consumption in this kingdom was nearly doubled after a great diminution of the duty in 1824; and it has again much increased since the late reduction to 1s. per cwt. (1 & 2 Vict. c. 113), which took effect from the 5th January 1839; the average quantity annually entered for home consumption in the four previous years having been 170,000 lbs.; whereas, in the year to 5th January 1840, it amounted to 490,000 lbs.

COCKET, a custom-house warrant, given on the entry of goods for exportation, in evidence of their having paid duty, or being duty free.

COCKLE, a shell-fish (*Cardium*) which abounds in the seas of almost every warm and temperate climate. It is generally found buried in sand near the shore. The species are numerous, and some grow to a very large size. The common cockle (*C. edule*) is well known as a cheap article of food in most of the towns on our coast.

COCO, OR **COCOA-NUT** (Pers. *Narjible*), is the product of a species of palm (*Cocos nucifera*) found in all tropical countries. The milk of the cocoa-nut is a pleasant refreshing liquor contained within the kernel while it is yet growing, and which diminishes in quantity as the kernel approaches to maturity. This last has much the taste of the filbert. The importance of the cocoa-nut tree to mankind has caused it to be cultivated wherever the climate is favourable to its growth. It is sometimes found throughout extensive tracts, to the exclusion of all other trees. Almost the whole Brazilian coast, from the river San Francisco to the bar of Mamanguape, about 280 miles, is thus occupied; and it was estimated some years ago that about 10,000,000 trees were growing on the south-west coast of Ceylon. The nuts are generally brought to Europe as wedges to fasten casks and other packages in vessels; their freight, therefore, costs nothing. About 400,000 lbs. are annually entered for home consumption.

The cocoa palm is from 60 to 100 feet in height, and 1 to 2 feet in diameter; at the top it is crowned with a magnificent tuft of leaves, each about 14 feet in length, and resembling an enormous feather. A good tree produces from 50 to 80, sometimes 100 nuts in a year; and each nut is considered equivalent, as food, to at least 3 oz. of rice. It grows best in the moist low grounds that border the seacoast, or which form the neighbouring islands. Nothing can be more beautiful than these cocoa groves. The bare trunks rise like columns to a vast height, and the regular foliage, arching their summits, carries the eye along the vistas, as it were, of a boundless gothic edifice. It is a very prolific tree; flowers are put forth every four or five weeks, and thus flowers and fruit are generally to be seen at the same time. It furnishes materials for almost an infinite variety of purposes. Of the roots are constructed baskets; of the hollowed trunk, drums, pipes for aqueducts, and similar articles. The reticulated substance at the base of the leaves, besides serving for infants' cradles, is manufactured into coarse sackcloth. The terminal bud is accounted a delicacy for the table. The leaves are employed for thatching buildings, for making baskets, fences, and torches, besides furnishing the chief diet in Ceylon for the tame elephants; in a young state they are transparent, and are made into lanterns by the natives. The woody ribs of the leaflets are formed into a kind of basket-work for catching fish, and into the brushes and brooms employed for domestic purposes. Good potash is yielded by the ashes, and the latter is used instead of soap by the native washermen. From the unexpanded flower is procured a sweet juice which is converted into wine, and subsequently distilled into arrack, which is manufactured in very large quantities in the island. From palm-juice is likewise prepared, in great abundance, a coarse kind of sugar called *jaggery*. The value of the fruit of this tree can only be fully appreciated in the countries that produce it. The fibrous covering is an admirable substitute for hemp, and is largely manufactured into *coir* [COIR], a substance peculiarly well adapted for the cordage of vessels. In short, to such a variety of purposes is the cocoa-nut tree applied, that, according to Mr Martin, the natives of the Maldivé Islands send an annual embassy to Ceylon, the boats conveying which are entirely prepared from this tree, the persons composing the embassy clothed and fed on its products, and the numerous presents for the governor are all manufactured from this queen of the palms.

Cocoa-Nut Oil is obtained from the albumen, or white solid matter contained within the shell, by pressure or decoction; usually the former. This oil is used in lamps, in the manufacture of candles and torches, in the composition of pharmaceutical preparations; and mixed with dammer it forms the substance used in India for calking the seams of ships. It is largely imported into the United Kingdom from Ceylon, and about 30,000 cwts. are annually entered for home consumption.

COCOA. [CACAO.]

COCOON, the oblong roundish ball formed by the silk-worm by winding around itself the silk which it draws from its bowels.

COD (Du. *Kabeljaauw*, *Baukaelja*. Fr. *Morue*. Ger. *Kabljou*, *Bakalau*. It. *Baccala*. Por. *Bacalhão*. Sp. *Bacalao*), the most valuable of the white fish (*Gadus Morrhua*, Linn.; *Morrhua vulgaris*, Cuv.) is found universally from Iceland nearly to Gibraltar, and is very abundant on the coast and islands on the E. side of America, from N. lat. 40° to 66°, particularly at Newfoundland. It spawns in our seas about February, and nine millions of ova have been found in the roe of one female. It is in the best condition, as food, from the end of October to Christmas. Two varieties are distinguished in the British seas, the northern or Scotch cod, a blunt-headed, lighter-coloured fish; and the southern or Dogger Bank cod, a sharper-nosed, darker fish: both are equally good, and are sometimes taken on the same ground. As cod generally inhabits water from 25 to 40 fathoms deep, its capture is only attempted with lines and hooks. It is voracious, and easily taken; from 400 to 550 fish have been caught at the Newfoundland bank, in 10 or 11 hours, by one man. "In this country, it appears to be taken all round the coast; among the

islands to the N. and W. of Scotland it is abundant ; most extensive fisheries are carried on ; and it may be traced as occurring also on the shore of almost every county in Ireland."—"A change has lately taken place from the cod having shifted their ground. Formerly the Gravesend and Barking fishermen obtained no cod nearer than the Orkneys or the Dogger Bank ; but for the last two or three years, the supply for the London market has been obtained by going no farther than the Lincolnshire and Norfolk coasts, and even between that and London, where previously very few fish could be obtained." (*Yarrell's British Fishes.*)

The *Great Bank of Newfoundland*, the celebrated resort for the cod-fishery, is a large rocky shoal extending towards the east of the island, about 600 miles in length and 200 in breadth. The ocean flowing over this vast submarine mountain contains perhaps as much human food as a land territory of equal extent ; and although the maritime nations have for several centuries laboured indefatigably in it, not the slightest diminution of fruitfulness has ever been observed. For a long time the fishery was chiefly confined to this bank, and to vessels sailing from European ports. As soon, however, as permanent settlements began to be formed, it was found that the S. E. coast, rocky and deeply embayed, afforded a supply almost equally exhaustless, the produce of which could be cured there much more cheaply and conveniently. The bank-fishery was in consequence gradually deserted by the British ; and if the French and Americans still carry it on to a certain extent, we may conclude that it is entirely owing to the want of the same conveniency on shore.

The fishery now carried on by our countrymen chiefly extends along the coasts of Labrador, principally the south-eastern tract opposite to Newfoundland, and separated from it by the Straits of Belleisle. Twenty thousand British subjects are annually employed, with from two to three hundred schooners, on the Labrador stations. About four-fifths of what we prepare is afterwards exported to the southern countries of Europe, chiefly for consumption during Lent, and the other fasts of the Roman Catholic church. A great quantity is carried into Newfoundland *green* or *pickled*, that is, it is split and salted, but has not been dried at the stations. In general, however, it is dried ; after undergoing which, and a careful inspection, it is divided into three sorts :—1. Merchantable, of the finest colour and quality. 2. Madeira, which are nearly equal to the first. 3. West India, decidedly inferior, yet capable of standing a sea-voyage, and being kept a considerable time. These last, with the greater part of the Madeira, are destined for the aliment of the negroes in the West Indies. The bank-fish is inferior in appearance to the shore-fish, and, to a certain degree, in quality, from the process of drying (which must be done on shore) being often performed too late, and with fewer conveniences than in the case of the shore-fishery. It is, however, of a larger size, which secures a preference in some markets.

The annual produce of the British fishery of Newfoundland, including the fish carried there from Labrador, at different periods since 1790, was as follows. The quantities stated are quintals of dried fish, each equal 112 lbs., or 1 cwt. avoirdupois.

1790, 1791, 1792, average .	quintals 636,800	1830	quintals 780,177
1798, 1799, 1800	382,881	1832	619,177
1805	526,380	1833	883,538
1815	1,245,808	1834	674,988
1820	899,729	1835	727,388
1825	973,464	1836	860,354

The state of the fishery may thus be regarded as stationary. The price obtained for cod, however, has varied remarkably. In 1814, it was estimated at £2 per quintal ; in 1831, 1832, and 1833, at not more than 10s. In 1834, it rose to about 13s. ; but in 1835, again fell to 10s. The value of the 860,354 quintals dry fish, in 1836, is stated in the public accounts at £517,457, of which there were exported, 810,598 quintals, value, £483,638 sterling ; the value of the core and pickled fish, in the same year, being, besides, £1665. This, however, was exclusive of the fisheries of Nova Scotia, Cape Breton, Canada, and New Brunswick, the produce of which is stated under these heads respectively. The quantity of fish imported into the United Kingdom, re-exported, and consumed, for a series of years, is stated in the accounts of the Board of Trade as follows, without however distinguishing the portion thereof consisting of cod :—

	1834.	1835.	1836.	1837.	1838.
Imported, cwts.	51,974	68,337	86,165	125,133	103,448
Re-exported	17,412	5,360	9,916	13,310	6,574
Entered for consumption	34,562	62,752	76,474	111,823	96,874

Great Britain, by the treaty of 1816, ceded to France the right of fishing on the

coasts of Newfoundland, from Cape John to Cape Ray, with the islands of St Pierre and Miquelon ; and in 1832, this power employed about 325 vessels, of from 100 to 400 tons each, in her fisheries on the British American coasts and banks, and 14,000 fishermen ; and the produce of their fishery in the same year was about 34,000 quintals, value £200,000 sterling ; to protect which the government pays on the average £50,000 in bounties. The French vessels are principally fitted out at St Malo, Bordeaux, Brest, Marseilles, and Dieppe.

The Americans of the United States, by the convention of 1818, possess the privilege of fishing along all the coasts within three marine miles of the shore ; and curing fish in such harbours and bays as are uninhabited, or, if occupied, with the consent of the inhabitants. Their first spring voyage is made to the banks ; the second either to the banks, Gulf of St Lawrence, or the coast of Labrador ; the third, or fall voyage, is again to the banks ; and a fourth, or second fall voyage, is also made, sometimes to the banks. In these fisheries they have annually engaged from 1500 to 2000 schooners of 90 to 130 tons, employing about 20,000 seamen. The total produce of their cod-fishery was stated some years ago at 1,850,000 quintals, of which about 1,500,000 quintals were taken in the British American seas. The adventurers receive no bounty from their government, but they possess peculiar advantages from their vicinity to the fishing-grounds. Their vessels are chiefly fitted out at Boston, and other ports on their north-eastern coast.

The history of the cod-fishery, and of the dissensions it has frequently produced between the maritime states, with a full account of the different methods by which the fish are caught and cured, will be found in M'Gregor's " British America," vol. i. chap. 9 & 10 ; also in Edinburgh Cabinet Library, " British America," vol. ii. chap. 12. FISHERIES.]

CODILLA, the part separated or picked out in cleaning hemp or flax.

COFFEE (Du. *Koffy*. It. & Por. *Caffè*. Ger. *Koffe*. Rus. *Kofé*. Fr. & Sp. *Café*) is the berry of the *Coffea Arabica*, an evergreen shrub with an erect slender trunk, height from 8 to 15 feet, and having long flexible branches. The flower resembles that of the common jasmine, and the fruit is like a small red cherry, enclosing within a soft pulp the two oval seeds familiar to every one as the coffee bean of commerce. The shrub begins to produce fruit when about 2 years old, and yields, according to its age and size, from 1 to 4 or 5 lbs. ; but the quality of the produce from young plants is inferior to that from such as are 4 or 5 years old. Coffee only 2 or 3 months from the tree is not so good as that which has been kept a year ; but when older it becomes deteriorated. When of good quality, the seeds or beans are hard and heavy, sink quickly in water, are of a light yellowish-green colour, sweetish taste, possess in a slight degree the peculiar odour of coffee, and are free from any rancid smell. The beans from the West Indies are larger than those from the East. Before being used for domestic purposes they are roasted, a process by which they are increased to nearly twice their original size, while they lose about one-third of their weight. Coffee is very apt to imbibe moisture, or the flavour of any thing placed near it ; much attention is therefore necessary in packing it on board ship or otherwise.

The coffee shrub is indigenous to Abyssinia and Arabia, but it has been transplanted into many tropical countries, and is now of great commercial importance. Its chief celebrity, however, is derived from Arabia, where its cultivation seems to be best understood. The quantity shipped from the different places of its production is at present estimated at upwards of 250,000,000 lbs. The chief places, stated according to their importance in this respect, are Brazil, 72,000,000 lbs. ; Cuba, 1,000,000 lbs. ; Hayti, 40,000,000 lbs. ; Java, 30,000,000 lbs. ; British West Indies, Dutch Guiana, South American States, Ceylon, British India, French West Indies, Porto Rico, Sumatra, Bourbon, Philippines, and Mocha.

The consumption of coffee in this country was inconsiderable until of late years. In 1790, it amounted only to 973,110 lbs. ; the duty on British plantation coffee being at the same time about 10½d. per lb. An increase of the duty in 1795 to about 1s. 5½d. per lb. reduced the consumption ; and in 1800 it was only 826,590 lbs. An impetus, however, was given to the trade in 1807, when the duty was reduced to 7d. per lb. ; and in 1810, the quantity entered for home consumption was 5,308,096 lbs. In 1820, it was 6,869,286 lbs. Its subsequent progress is shown in the following table :—

Account of the Quantity of Coffee imported, exported, and consumed in the United Kingdom; with the rates of import duty, revenue arising therefrom, and price of fine Jamaica Coffee in bond in July in the following years:—

Years.	Imported.		Exported.		Consumed.		Duty per lb.		Revenue.		Price per Cwt.	
	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	s.	d.	£	s.	d.	£
1821	45,827	41,430,306	7,363	101	38,464	40,937	1	0	204,303	119	6	124
1822	44,193	44,35,825,535	7,009	201	37,184	39,349	1	0	207,345	120	6	124
1823	45,403	45,753,893,494	8,454	509	36,949	39,299	1	0	209,613	120	6	124
1824	46,000	46,200,000,000	8,500	500	37,500	39,700	1	0	210,000	120	6	124
1825	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1826	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1827	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1828	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1829	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1830	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1831	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1832	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1833	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1834	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1835	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1836	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1837	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1838	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1839	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124
1840	47,000	47,000,000,000	8,700	500	38,300	40,300	1	0	215,000	120	6	124

Of the 39,932,279 lbs. imported in 1836, there were brought from the British West Indies 17,580,655 lbs.; East India Company's territories and Ceylon, 7,783,000 lbs.; Brazil, 10,573,713 lbs.; Hayti, 1,555,494 lbs.; Cuba and other Foreign West India colonies, 683,509 lbs.; Cape of Good Hope, 800,074 lbs.; West Coast of Africa, 267,803 lbs.; Colombia, 5,5329 lbs.; the remainder in smaller quantities from Mauritius and other places. The chief exportations in the same year were to Belgium, 2,306,500 lbs.; Holland, 2,049,220 lbs.; Italy and Sicily, 2,509,822 lbs.; Turkey, 1,546,695 lbs.; Russia, 668,305 lbs.; Germany, 532,434 lbs.; Malta, 177,415 lbs., and Syria, 120,158 lbs. It may be noticed, however, that besides the quantities of coffee entered as imported into the United Kingdom, numerous cargoes from Brazil and other foreign countries are sold in London by sample; the vessels waiting in a roadstead in the Channel until a sale is effected, when they are despatched, without breaking bulk, to Hamburg, Antwerp, Rotterdam, or some other port on the Continent.

The consumption of coffee in the United Kingdom has now overtaken the supply from the British West Indies and other colonies admissible at the low duty of 9d. per lb.; and the great increase of price which has consequently taken place, has, besides rendering adulteration with chicory, roasted rye, and burnt corn, very common, made it an object to import foreign coffee by way of the Cape of Good Hope, which, being held to be a British possession within the limits of the East India Company's charter, entitles such coffee to be introduced into this country for consumption at the next lower duty of 9d. per lb. In this way, great quantities of coffee, the produce of Brazil, Hayti, and other foreign countries, have been entered for home consumption; the additional cost of sending it for transshipment at the Cape being only from 1d. to 1d. per lb. Java coffee is likewise introduced in this way through the Cape and Singapore. These evasions of the law, called in trade "colonizing coffee," have been chiefly practised since the end of 1836, before which time the quantity introduced at the 9d. duty was quite inconsiderable. The 1s. duty is nearly an exclusion; that at 1s. 3d. is entirely so; the coffee imported into this country direct from Brazil, Hayti, and other foreign countries being merely warehoused for re-exportation to the Continent.

The absurd operation of the present regulations, under which the British consumer is made to pay the higher duty, and an increase of freight, while the foreign coffee is not excluded from the British market, though this was obviously the purpose of the law, has already engaged the attention of Parliament (*Report on Import Duties*, 1840), and it is considered probable that another session will not be allowed to pass without some remedy being applied by the legislature. The formation of temperance societies and other circumstances with regard to the habits of the people, are such as to be greatly more favourable than formerly to the use of coffee by the humbler classes, and little doubt is entertained that the revenue derived from it might be much increased by a different arrangement of the

ca. The following table, prepared by Mr Porter of the Board of Trade (*Re-on Import Duties*, p. 200), exhibits, in a striking point of view, the advan-ous effects which have been produced by the past reductions of the duty :—

CONSUMPTION OF COFFEE IN GREAT BRITAIN.

Years.	Population.	Pounds Weight Consumed.	Rate of Duty.		Consumption per Head.	Tax per Head.
			s.	d.	oz.	d.
801.....	10,942,646	750,861	1	6 per lb.	1·09	1½
811.....	12,596,803	6,390,122	0	7 ..	8·12	4
821.....	14,391,631	7,327,283	1	0 ..	8·01	6
831.....	16,539,318	21,842,264	0	6 ..	21·13	8
838.....	18,275,946	24,920,820	0	6 ..	22·60	8½

act 3 & 4 Wm. IV. c. 52, § 32, provides that no abatement of duties shall be made on account y damage received by coffee ; and by 3 & 4 Wm. IV. c. 57, § 33, coffee may be abandoned ty. [CUSTOMS. WAREHOUSE.] Coffee-dealers must take out a license renewable annually. London, coffee is sold in bond ; the business is done in the market, either by public sale ivate contract. The terms are—E. I. and W. I. British Plantation, 1 month, 1 per cent. unt, allowing 4 per cent. for cash ; East India at a prompt of three months from the day of without discount ; Foreign, 1 month, 2½ per cent. discount, and 4 per cent. for cash. The tares be same as allowed by the revenue. The draft on B. P., namely, casks of 5 cwt. and upwards, . ; under 5 cwt. 4 lbs. ; barrels and bags, 2 lbs. ; Foreign and East India, 1 lb. s prices in bond of the different kinds of coffee in the London market in January 1841 were low :—

	s.	d.		s.	d.		s.	d.		s.	d.
sica.						Dominica and St Lucia.					
ne, Middling, & Fine	112	0	to	135	0	Middling and Fine.....	108	0	to	132	0
od Middling.....						Good and Fine Ordinary..	80	0	..	100	0
ddling.....	106	0	..	110	0	Middling and Good.....	58	0	..	68	0
rw do.....	102	0	..	104	0	St Domingo, for export.	42	0	..	47	0
ne and Fine Fine Ord...	90	0	..	100	0	Brazil.....do.....	41	0	..	46	6
od Ordinary.....	80	0	..	88	0	Havannah.					
inary.....						Good and Fine Ordinary...	40	0	..	55	0
aga.....	70	0	..	78	0	Middling and Good.....	58	0	..	68	0
arara and Berbice.						Porto Rico & La Guayra....	41	0	..	72	0
od Middling to Fine....	108	0	..	130	0	East India, Java.	56	0	..	70	0
rw Middling & Mid.....	100	0	..	106	0	Ceylon, certificate.....	72	0	..	80	0
od and Fine Ordinary..	78	0	..	98	0	Do. for export.....					
inary.....						Sumatra and Samarang....	34	0	..	55	0
aken.....	70	0	..	84	0	Mocha.....	105	0	..	135	0

o possess no precise information as to the period when coffee was first adopted as an article of Its use during several centuries was peculiar to the east ; and the city of Aden is the first on rd that set the example of drinking it as a common refreshment about the middle of the 15th yry ; after which it rapidly extended to Mecca, Medina, and the other cities of Yemen. It introduced at Grand Cairo about 1500, by dervises from Yemen resident in that city, where, ver, it was opposed on religious grounds, from the persuasion that it had an inebriating qua- ; and in 1523, Abdallah Ibrahim having denounced it in a sermon, a violent commotion was eed, and the parties came to blows. Upon this, says a writer in Rees' Cyclopædia, the k Elbelet, commander of the city, assembled the doctors, and after giving a patient hearing to : tedious harangues, treated them all with coffee, first setting the example by drinking it self, and then dismissed the assembly without uttering a word. By this prudent conduct public peace was restored, and coffee continued to be drunk without further molestation. At antinople, where it was introduced in 1554, it had to encounter both political and religious ntion ; but it soon triumphed over every obstacle, and being taxed, produced a considerable ne. Public officers are appointed to inspect and prepare it ; and it is said that a refusal to y a wife with coffee is one of the legal grounds of divorce in Turkey. e was brought into notice in the west of Europe in the seventeenth century. The first ouse in London was opened in 1652 by a Greek named Pasqua, who had been servant to el Edwards, a Turkish merchant, and the number soon increased. In 1675, Charles II. pted to suppress them as places of resort dangerous to government, but without effect ; and 88, it was supposed that there were as many of these houses of entertainment in London as and Cairo ; besides those to be met with in the principal towns throughout the country. quantity consumed upon the whole, however, was unimportant, and derived solely from b through the medium of Turkey, as coffee was not cultivated in the western hemisphere r to the eighteenth century, when Van Hoorn, governor of Batavia, procured seeds from e, and a plant reared by him was forwarded to the botanical garden at Amsterdam, the y of which was in 1718 sent to Guiana. The produce of another plant was about the same ransmitted by Louis XIV. of France to Martinico, and from these places the cultivation of ffee-shrub rapidly extended throughout the West Indies and South America.

OIN, a flat circular piece of metal, impressed with a public stamp serving as arantee for its weight and fineness, and used as money. A variety of metals e been employed for this purpose ; but the portability, permanent value, and 'orm quality of gold and silver, have, from an early age, secured for them a ral preference. Copper has also been very commonly used, especially for idinary coins ; and of late years the Russian government has introduced plati-

... for the purpose, has ob-
tained the necessary facilities in the quantity of its

... the metal is not so flexible for
... with a small proportion
... in different
... of a
... and account
... the fineness of silver
... of pure metal contained
... of these 24 are
... and its quality is
... The British money
... is a function of
... these have

... all countries, yet a
... for large payments,
... for this purpose, but in
... their mutual
... of exchange. It does not
... that the other
... Isaac Newton,
... in the market-
... and the
... of circulation.
... and in ... their relative
... This was an over-
... a difference
... the fusion of
... of gold in all

... arose as to
... the standard of value.
... of the Realm,
... which are the
... that this
... in England are
... of the silver and
... the new regulations em-
... of the British coinage

... half-sovereigns;
... These
... of standard metal;
... weight of the sovereign
... however, a legal

... shillings (of 12 pence),
... and 1d., called
... as alms by the
... These are all coined at the rate
... silver is minted at 5s. 6d.
... prior to 1816, which was
... 113 grains and 3-11ths.

... farthings, at the rate of 2224 per

The Homage of the Mint, or allowance for the facility of workmanship, in
... 12 grains per lb. in the
weight, and 1-10th of a carat in the fineness; for silver, 1 dwt. per lb. in the weight,
and the same in the fineness; and for copper, 1-40th of the weight.

Seigniorage is exacted on gold coins, as they are minted at the market-value
of that metal; but on silver coins a seigniorage is at present levied of about 10 per
cent. (the market price being about 5s., and the mint price 5s. 6d. per oz.); while
on copper coins it amounts to more than 100 per cent. It was enacted, however,

that silver coins shall be a legal tender for 40s. only at one time,—copper coins for 2 pence only,—and “that gold coins shall be in future the sole standard measure of value and legal tender for payment, without any limitation of amount.”

The amount of money coined in the 23 years 1816-1838 has been : *Gold*, 16,119 noble sovereigns ; 54,964,695 sovereigns ; 8,526,451 half-sovereigns : *Silver*, 849,905 crowns ; 31,051,938 half-crowns ; 94,339,080 shillings ; 52,915,235 sixpences ; 87,412,938 fourpences : *Copper*, 21,450,240 pence ; 28,304,640 half-pence ; and 41,782,270 farthings ; besides Maundy money, and small coins for the colonies. The total amount of coin in circulation in the United Kingdom at present is estimated to be about £40,000,000.

The loss on coins by abrasion has been variously estimated. According to experiments made at the Mint in 1833, the waste per cent. per annum appears to be, on sovereigns, from 9d. to 10½d. ; on half-sovereigns, from 1s. to 1s. 6½d. ; on half-crowns, from 2s. to 3s. ; on shillings, from 2s. 3d. to 6s. ; and on sixpences, from 1s. to 8s. These results, making allowance for the greater use of some coins than others, confirm the general estimate that gold possesses about four times the durability of silver.

The coining of money forms one of the exclusive prerogatives of the crown, and the counterfeiting of it constituted formerly the offence of high treason. At present the integrity of the coinage is guarded by the act 2 Wm. IV. c. 34, under which persons counterfeiting coin, or impairing it, are punished with transportation or imprisonment. Penalties are also imposed on those uttering false coins,—having three or more such pieces in their possession, with intent to put off the same,—and on those making, mending, or having in possession, any coining tools.

Foreign Coins are in this country regarded merely as bullion, and are valued according to the assayer's report of their purity. These reports are made in reference to the money-standards already mentioned ; and the comparative difference of the metal assayed is called its *Bettersness* or *Worseness* : thus, gold 23 carats 2 grains fine, is reported,—Better 1 carat 2 grains ; and gold 20 carats,—Worse 2 carats : Also silver 11 oz. 4 dwts. fine, is reported,—Better, 2 dwts. ; and silver 10 oz. fine,—Worse 1 oz. 2 dwts. The calculation of the quantity of standard gold or silver that could be obtained from the full weight of the given metal, according to the assay report of its purity, is termed the *Standarding of Gold and Silver*. Gold is valued either from the full weight, by a price varying according to its purity,—by the market-price per oz. standard, from the quantity of standard metal, or by the fixed mint-price ; the latter being the usual rate for determining the intrinsic value of foreign coins as money. Dollar silver is usually sold by the full weight at a variable price per ounce ; and other silver by the standard weight, at a variable price per ounce standard. Silver coins, however, are usually valued, in commercial works and for ordinary purposes, from the standard weight at the fixed price of 5s. per ounce standard,—a rate which varies little from the market-price of late years. Practical formulæ for standarding gold and silver, for ascertaining their value under different circumstances, and for the various other calculations which occur in bullion operations, will be found stated with much neatness in Mr Tate's “Manual of Foreign Exchanges” (p. 134-224). The following tables, compiled from that work, show the assays, weight, purity, and value of the principal foreign gold and silver coins, computing the former at the rate of £3 : 17 : 10½, and the latter at 5s. per ounce, British standards :—

TABLE OF THE PRINCIPAL FOREIGN GOLD COINS.

Country.	Names.	Assay Report.	Full Weight.	Standard Weight.	Pure Gold.	Value in Sterling.
		car. gr.	dwt. gr.	dwt. gr.	grains.	s. d.
Austria.....	Half-sovereign.....	W 0 0½	3 14	3 13·75	78·61	13 10·95
	Ducat.....	B 1 2½	2 5½	2 10·00	53·17	9 4·93
Bavaria.....	Max d'or.....	W 3 2½	4 4	3 11·80	76·82	13 7·16
Denmark.....	Christian d'or.....	W 0 1	4 7	4 5·83	93·34	16 6·25
East Indies.....	Mohur.....	W 0 0½	7 12	7 11·48	164·53	29 1·44
France.....	Napoleon.....	W 0 1½	4 3½	4 1·52	89·39	15 9·86
	Double Louis 48 livres	W 0 1½	9 20	9 15·97	212·64	37 7·63
Hanover.....	George d'or.....	W 0 1½	4 6½	4 5·04	92·62	16 4·72
Holland.....	Ducat.....	B 1 2½	2 5½	2 9·56	52·77	9 4·07
	10 florins.....	W 0 1½	4 7½	4 5·68	93·21	16 5·97
Portugal.....	Dobraon.....	Stand.	34 12	34 12·00	750·00	134 4·01
	Joannese.....	W 0 0½	9 6½	9 5·8½	203·37	35 11·95
Russia.....	Half Imperial.....	Stand.	4 3½	4 3·50	91·20	16 1·71
Spain.....	Doubleon.....	W 1 0½	17 8½	16 11·20	362·26	64 1·40
United States, America	Half Eagle.....	W 0 2	5 9	5 6·06	115·56	20 5·40

TABLE OF THE PRINCIPAL FOREIGN SILVER COINS.

COUNTRY	NAME	Lower Denom.	Full Weight.	Standard Weight.	Pure Silver.	Value to Sterling
Austria	Specie dollar of 2 fl.	W 1 2	10 1	10 4.10	267.00	4 0 0
Denmark	Rigsbank daler	W 0 12	8 7	8 10.10	195.10	3 0 0
East India	1 rupee = 4 annas	W 0 3	7 12	7 10.37	165.00	1 0 0
France	1 franc	W 0 6	10 10	13 13.30	347.17	3 0 0
Germany	1 thaler = 30 sch.	W 3 3	3 21.6	4 10.73	100.10	1 0 0
Spain	1 peseta = 100 cts.	W 0 14	8 9	8 23.00	100.00	0 0 0
Sweden	1 riksdaler = 48 sk.	W 0 8	6 20	4 16.1	140.01	1 0 0
Switzerland	1 franc = 100 cts.	W 0 64	17 11	16 27.73	376.00	4 0 0
Thailand	1 baht = 100 satang	W 1 2	16 10	12 6.91	200.00	2 0 0
Turkey	1 piastre = 100 k.	W 0 3	17 7	10 27.16	373.00	4 0 0
Portugal	1 rouble = 1000	W 0 4	9 3	8 23.00	140.00	2 0 0
Russia	1 rouble	W 3 3	16 7	11 17.30	255.00	3 0 0
Siam	1 baht	W 0 3	17 1	14 19.47	373.00	4 0 0
Siam	1 baht = 100 satang	W 0 16	13 0	13 11.00	377.00	3 0 0
Siam	1 baht = 100 satang	W 0 7	17 0	16 10.00	370.00	4 0 0
Siam	1 baht = 100 satang	W 0 8	17 0	16 17.01	370.00	4 0 0
Siam	1 baht = 100 satang	W 0 7	16 12.30	4 04	300.00	4 0 0

For further information regarding foreign coins, see the heads of the different countries to which they belong; the more important ones are also noticed separately.

HISTORICAL NOTES.—The origin of coined money is ascribed to the Egyptians, who are said to have possessed silver coins about 600 B.C. The coins next in point of antiquity are probably those of Lydia, and then the early Persian Daric (500–400 B.C.), which were both in gold and silver. No Hebrew coins occur earlier than those struck under the dominion of the Romans, about 130 A.C., and which are nearly all of copper. The first Greek coins were those of the cities, of which there is no chronological arrangement; the chief piece of money in use among the Athenians, and probably other Greeks also, was the Drachma, weighing, according to Plutarch, 60 Troy grains of silver. The earliest Roman coin was the *As*, first struck in the reign of Lucius Tarquin in the sixth century B.C. It originally contained of 12 ounces, or 1 libra of copper, but it was gradually reduced until 216 A.C., when, according to Pliny, it was only 1 ounce.

Coins of gold and silver, and the inferior metals, are found in this country, that are usually attributed to the very earliest British kings, but the earliest coin of any importance was the silver penny, which was common in most European kingdoms, and usually bore the device of a cross.

In ENGLAND, the silver penny has been coined from A.D. 600 to the present time, and it still is the best rule for valuing the other silver coins, as it has always formed the fourth part of the monetary pound. Its original weight of 24 Troy grains was reduced in 1205 to 16 grains, in 1462 to 12 grains, and in 1464 to 11 grains. Its subsequent reductions were, in 1527, to 11½, in 1543 to 10½, in 1551 to 9 grains, in 1601 to 7½ grains, and in 1616 to 7¼ grains. The standard for silver was 11 oz. 2 dwts from the Conquest (1066) until 1343. Frequent changes took place from 1343 till 1380, when it was permanently fixed at the former rate. The standard for gold was 23 carats 1½ grains from 1344 to 1387. Considerable fluctuations afterwards took place, but in 1496 it was fixed at 21 carats, and at this rate it has since continued. The principal gold coins of the old standard were nobles of 6s. 8d., marks of 12s. 6d., angels of 10s., and sovereigns of 50s. each. Prior to 1816, the principal coin of the new standard was the guinea, first coined in 1663, and which was minted at the rate of 64½ to 1 lb. Troy. The number of shillings in the guinea fluctuated from 19 to 20, until 1717, when, as already noticed, it was fixed at 21.

In SCOTLAND, the money pound contained, from the time of Alexander I. to that of Robert Bruce, a pound of silver of the same weight and fineness with the English pound; but the weight of the coins were afterwards gradually reduced, and at the Union in 1707, the Scots money amounted to only ⅓ of its original value,—the English having within the same time been reduced to about ⅓. Scots money became thus only ⅓ of the value of English,—and hence £1 Scots = 1s. 3d. sterling, and the Scots mark of 12s. 6d. = 1s. 1¼d. sterling. The Act of Union placed the currency of Scotland on the same footing as that of England.

In IRELAND, the gold and silver coins were from an early period those of England, but in the currency of that country they were reckoned far more than their British value. In 1690, the proportion of 16 to 13 was established in silver, in 1717 in gold, and in 1726 in copper. Hence, £100 sterling was equal £108, 6s. 8d. Irish, and the nominal par of exchange was 84 per cent. The actual course of exchange was, however, sometimes 10 or 12 per cent. above par. The distinction between the monies of the two countries was abolished by the act 6 Geo. IV. c. 79, which established the currency of Ireland to that of Britain, from and after 24 January 1800. [GODDARD. MONEY.]

COIR, a kind of cordage made, in Ceylon and other places, out of the fibres covering of the coco-nut. It is much esteemed in India, and on some occasions preferred to that of Europe from its advantage of floating on the surface of the water. It forms a considerable article of export from Ceylon, and nearly 6000 cwt. are annually entered for home consumption in the United Kingdom.

CUKE is an impure carbon procured from the distillation of pit coal, and generally obtained from coal-gas retorts. It has a porous texture, and more or less lustre. It is employed as fuel, and produces an intense and steady heat.

COLCOTHAR, or **CRUCUS**, a reddish powder, obtained by the decomposition of green vitriol. It is an oxide of iron, and is used as a paint, and for polishing iron and glass.

COLLISION OF VESSELS. Injuries occasioned by one ship driving against or fouling another, are frequently the foundation of claims and disputes on insurance and otherwise. Such injury is held to be by a peril of the sea, and such, the amount is recoverable under an ordinary policy. With regard to the incidence of the loss, it must come on the party whose misconduct has caused it, and there can be no recovery where the mischief is caused by the negligence of the master or mariners of the vessel insured. Where neither is to blame, the rule in this country is that the loss rests where it lights; in maritime codes of some countries, the loss is, in such circumstances, divided between the owners of the two ships. (*Marshall on Insurance*, 494, 495.)

COLOCYNTH, COLOQUINTIDA, or BITTER APPLE (Fr. *Colquinte*. Ital. *Coloquintida*. Pers. & Arab. *Hunzil*), the fruit of an annual of the gourd kind (*Cucumis colocynthis*) found in Turkey and Nubia. It is the size of an orange, smooth and yellow, but is peeled and dried before imported, when it becomes whitish, very light, dry, and spongy, with a weak disagreeable smell, and an intensely bitter nauseous taste. The medullary freed from the seeds, furnishes an extract which is in common use as a purgative. About 16,000 lbs. are annually entered for home consumption in the United Kingdom.

COLOMBIA, the name given to a republic which was formed, in 1819, of the northern part of South America, formerly divided under Spain into the viceroyalty of New Granada, comprising the audiencia of Quito, and the captain-generalship of Venezuela. In 1831, this republic was separated into the three republics of New Granada, VENEZUELA, and ECUADOR, or Quito,—the territories of which correspond with the former divisions. During the existence of the republic of Colombia, it contracted the following loans in London, namely, £2,000,000 in 1822, contracted with Messrs Herring, Graham, and Co., at 84 per cent.; £4,750,000 in 1824, contracted with Messrs B. A. Goldschmidt, & Co., at 88½ per cent. These loans bear interest at 6 per cent.; but none has been paid since 1826. The bonds for the first loan were called *red*, and those for the other *black*, they are so distinguished in the money market. According to arrangements made at Bogota in January 1835, the amount of the loans was partitioned among the Colombian republics as follows:—New Granada to bear 50 parts, Venezuela, 28½ parts, and Ecuador 21½ parts. The revenues of revenue appropriated by the late government, as a provision for the public debt, consisted of ¼th of the customs duties, the whole of the duties levied on gold and silver, and the revenues from the tobacco monopoly; these are now under the management of the separate republics, but the recent political dissensions have rendered them much less productive than formerly.

COLONY, a territory possessed and cultivated by a body of people drawn from another country to which it is politically united. The term, however, is used loosely, to express an outlying part of the population of the mother-country, or an entire territory belonging to it, either in conjunction, or any of the two by themselves.

In both ancient and modern times colonization has proceeded from the same causes, namely, commercial enterprise, political commotion, the desire of conquest, and the natural overflowing of population. The earliest of the ancient colonies were formed by the Canaanites or Phœnicians, on the shores and islands of the Mediterranean, and more particularly on the N. coast of Africa; these owed their origin in most cases to a spirit of commercial adventure. The Greek colonies were founded partly from similar motives, but chiefly from the dissensions and superfluous population in the parent states. On the other hand, the Roman colonies were military stations, formed solely for the purpose of bridling subjugated provinces. These last always maintained an intimate connexion with Rome; but the Grecian and Roman colonies appear in most cases to have been independent, though a strong feeling of regard generally characterized their intercourse with their parent countries.

The spirit of colonial enterprise, dormant in the middle ages, was revived in the 13th century by the Italian republics, Genoa, Pisa, and Venice, which formed settlements in various parts of the Mediterranean and Levant. The modern European colonies, however, owe their origin to the ambition of the maritime states to participate in the Indian commerce formerly conducted by way of the Red sea, and monopolized by the Venetians. The discovery of the compass prompted navigators to attempt new channels. The Portuguese, after repeated failures, at length ascertained the eastern passage in 1497, when the Cape was doubled by Vasco de Gama; the Spaniards attempted a westerly course which led to the discovery, by Columbus, of the West Indies in 1492, and of South America in 1498; while the

English, restrained by the pope from profiting by the Portuguese and Spanish discoveries, despatched Sebastian Cabot by the north-west, a route which led him to Newfoundland and North America in 1497. The progress of commercial enterprise in the East is described under the head **EAST INDIA COMPANY**. In South America, Columbus's discoveries were followed by the conquest of Mexico in 1519 by Cortez, and of Peru by Pizarro and others in 1531. Brazil was settled by the Portuguese in 1500. The West Indian Islands, notwithstanding the papal grant in favour of Spain, were occupied by various nations; Hispaniola or Hayti in 1496; Jamaica, about 1510; Cuba, 1511; Porto-Rico, 1514; Barbadoes, 1605; and the others at later periods. The progress of colonization was much slower in N. America; Virginia was taken possession of by Raleigh in 1583, but soon after abandoned; and the first permanent English settlement, which was at Jamestown in the same state, was not formed until 1607. The colonization of N. America afterwards proceeded rapidly, particularly during the disturbances in England which attended and followed the dethronement of Charles I.; the cavaliers emigrating to Virginia, the Puritans to New England, and the Quakers to Pennsylvania. In 1776, the attempt of Great Britain to tax the American colonists for the purposes of the general government led to the political separation of the "United States" from the mother-country; and in 1810, revolutionary movements occurred in S. America which resulted in the emancipation of the Spanish colonies on that continent. The subsequent progress of these countries has been illustrative of the treatment previously received by them from the parent states. The English colonists, allowed free institutions, and a more extensive market for their surplus produce than the colonies of any other nation, acquired habits of self-government and industry; and their career, since becoming independent, has been peaceable and prosperous to an extent which now places them in commercial greatness above all countries of the world except Britain. The Spanish colonists on the other hand, oppressed with heavy taxes and crown monopolies, were subjected to a despotic government, under which they were excluded from all offices of emolument; education also was proscribed, and the Inquisition established. Under such training, the people became ignorant and depraved; and having adopted republican institutions, for which they were unfitted, have, by tumultuous and frivolous contentions, so far paralyzed industry and dissipated their resources, that these fine countries are now, with the exception perhaps of Chili, even much less productive than when under the wretched dominion of the mother-country.

Notwithstanding the separation of the United States, the British colonies remained of considerable extent; and many acquisitions having been since made, both by conquest and settlement, they now far exceed in importance those of all other states. Including fortified stations and other dependencies, Great Britain now possesses:—In *Europe*; Gibraltar, Malta, Gozo, and Heligoland: *North America*; Canada, Hudson's Bay Territory, Nova Scotia, New Brunswick, and the islands of Cape Breton, Prince Edward, and Newfoundland, together with the Falkland group off S. America: *West Indies*; Jamaica; the Windward Islands, Barbadoes, St Vincent, Grenada, Tobago, St Lucia, and Trinidad; the Leeward Islands, Antigua, St Christophers, Montserrat, Nevis, Anguilla, Dominica, and Virgin Isles; Bahama Islands; Bermuda Islands; Demerara, Berbice, and Essequibo in Guiana; and the settlement of Honduras in Central America: *Africa*; Cape of Good Hope; settlements in Guinea and Senegambia, including Bathurst, Sierra Leone, and Cape Coast Castle; the islands of Fernando Po, St Helena, Ascension, and Tristan d'Acunha; the Mauritius, and other small islands in the Madagascar Archipelago: *Australasia*; New South Wales; Swan River, and King George's Sound; South Australia; Van Diemen's Land; and New Zealand: *Asia*; the island of Ceylon. The immense territory of the East India Company in Hindostan, with their dependencies, Singapore, Penang, Malacca, and Aden, are not usually included in the list of British colonies.

The foreign possessions of *Spain* at present consist of Cuba, Porto-Rico, the Philippines, the Canaries, and settlements in Morocco: *Portugal* has the Madeiras and the Cape de Verde Islands; Angola, Benguela, Loango, and Mozambique in Africa; Goa in India; Macao in China; and a settlement in the island of Timor: *France* has the West Indian Islands Guadaloupe, Martinique, Marie-Galante, and Deseada; Cayenne in Guiana; the small islands of St Pierre and Miquelon in the vicinity of the Newfoundland fishing-ground; Algiers, Senegal, and Goree in Africa; the isle of Bourbon; St Marie in Madagascar; and Pondicherry and Chandernagore in India: *Holland* possesses Java, the Moluccas, and settlements in Sumatra, Celebes, Borneo, Banda, and other eastern islands; the West India

Curacao, St Eustatius, Saba, and part of St Martin ; and Dutch Guiana : it has Iceland, settlements in Greenland, the West India Islands St Croix, St John, and St John ; Christiansburg and other possessions in Guinea ; and Calcutta and Serampore in India : Sweden has the West India Island of St John.

British Colonial Policy.—Every European power has endeavoured more or less to monopolize to itself the commerce of its colonies ; but the manner in which monopoly has been exercised by different nations has been very different. Some have given up the whole to an exclusive company ; some, without establishing such a company, have confined the whole to a particular part of the country ; while others have left it free to their subjects at all ports. The general policy of Great Britain, which has been characterized by it as comparatively more liberal than that of other European powers (*of Nations*, b. iv. c. 7). At an early period, indeed, the English colonists were allowed to follow their own interest in their own way ; but on their commerce becoming of importance it was placed under regulations calculated to secure the consumption of English manufactures, the employment of English ships, and the export to the English market for their surplus produce. In the exportation of surplus produce, however, it was only with regard to certain commodities that British colonies were confined to the market of the mother-country. These commodities having been enumerated in the act of navigation (12 Ch. II. c. 18) and in subsequent acts, were upon that account called *enumerated commodities* ; those called *non-enumerated*, could originally be exported directly to all parts of the world, provided it were in British or colonial ships ; but they were afterwards (1773, c. 52) confined, as to the European market, to the countries that lie between Cape Finisterre, which, not being manufacturing countries, we were less desirous of the colonial ships carrying home from them any manufactures which could compete with our own. The most perfect freedom of trade was permitted between British colonies of America and the West Indies, both in the enumerated and non-enumerated commodities. Great Britain, too, while she confined to her colonies some of the most important productions of the colonies, so in compensation gave to some of them an advantage in that market, sometimes by imposing higher duties upon the like productions when imported from other countries, sometimes by giving bounties upon their importation from the colonies. The excessive liberality of England, however, towards the trade of her colonies was chiefly to what concerned the market for their produce either in its rude state or what might be called the very first stage of manufactures. The more advanced or more refined manufactures even of the colony-produce were reserved to the merchants and manufacturers of Great Britain ; and their establishment in the colonies was prevented sometimes by high duties, and sometimes by absolute prohibition. But these restrictions, though selfish and tyrannical, did not materially diminish the prosperity of the colonies, as in all newly settled countries labour yields a profitable return when applied to the cultivation of the soil.

The colonial policy of Great Britain, though perhaps more liberal than that of other nations, was thus wholly influenced by the narrow-minded principles which characterize the "mercantile system." In modern times, it has undergone important modifications, but it still contains much that is exceptionable. The present colonial policy is so framed that the West India colonies are obliged to bring provisions and other articles from British America in British ships, though these articles might be obtained cheaper direct from the United States : they are also prevented from re-exporting sugar, though this is an operation which they themselves could conduct to their advantage in the colonies. In return for these sacrifices, and the disadvantages imposed in favour of British manufactures, the colonies are, as has been explained, virtually allowed the monopoly of the home-market for their produce. Under certain conditions of reciprocity as to the vessels employed, the colonies are allowed to ship their produce to all parts of the world ; but intercourse with foreign countries is of little importance, owing to the superior facilities for trade possessed by the mother-country.

Existing Regulations of the British Colonial Trade are chiefly embodied in the Acts 1 & 4 Wm. IV. c. 59, of which the following is an abstract :—

18 Geo. IV. c. 114, and succeeding acts. British ships) exported from any of the British possessions in America by sea, from or to any place other than the United Kingdom, or some other of such possessions, under pain of forfeiture, except the produce of the fisheries in except at the several "free ports." (These are

or, the amount of any duty at the time being on rum of in S. America or W. Indies. i, although British, if imported any B. P. in which foreign is prohibited, is treated as as it had been warehoused, ted from the warehouse.

tles, the tun . . . £7 7 0
for every £100 of value . . . 7 10 0
bottles, the dozen . . . 0 1 0
and imported from the U. K.,
£100 of the value . . . 7 10 0

Free.

bottles, for every £100 of . . . 7 10 0

to B. P. in N. America from
or Malta, subject to no higher
if imported from the U. K.,
nth of the duty remitted.

a, and sugar, the cwt. . . 0 5 0
e cwt. . . 0 3 0

the amount of any duty
at the time being on coffee,
ar, and molasses, the pro-
P. in S. America or W. Indies.

watches, leather manufac-
sm, musical instruments,
ll sorts, books and papers,
factures, for every £100 of . . . 30 0 0

actures, soap, refined sugar,
ly, manufactured tobacco,
a manufactures, for every
e value . . . 20 0 0

anchovies, argol, aniseed,
monds, brimstone, botargo,
surrants, capers, cascadoo,
red, coral, cork, cinnabar,
nces of bergamot, lemons,
m, oranges, lavender, and
emery stone, fruit pre-
ngar or brandy, figs, honey,
a, unwrought and pig iron,
rries, incense of frankin-
and Malta stone for build-
marble rough and worked,
ork, medals, musk, mac-
s of all kinds, oil of olives,
onds, orris root, ostrich
ochres, orange buds and
a, pitch, pickles in jars and
intings, pozzolana, pumice-
k, Parmesan cheese, pickles,
ria, precious stones except

quicksilver, raisins, sau-
ages, tar, turpentine, ver-
micelli, and whetstone, for
of the value . . . 7 10 0
s, and merchandise, not

otherwise charged with duty, and not
herein declared to be free of duty, for
every £100 of the value . . . £15 0 0

Coin, bullion, diamonds, live-stock, tal-
low, raw hides, rice, corn and grain
unground, biscuit or bread, meal or
flour except wheat flour, fresh meat,
fresh fish, carriages of travellers . . . Free.

Wheat flour, beef and pork, hams and
bacon, wood and lumber, imported
into Canada . . . Free.

Wood and lumber, imported into New
Brunswick, Nova Scotia, or Prince
Edward Island . . . Free.

Hay and straw, fresh fruit and vegetables,
salt, and cotton-wool . . . Free.

Goods, the produce of places within the
limits of the E. I. Co.'s charter, im-
ported from those places, or from the
U. K., or from some place in the
British dominions . . . Free.

Herrings taken and cured by the inha-
bitants of the Isle of Man, and im-
ported from thence . . . Free.

Lumber, the produce of and imported
from any B. P. on the W. coast of Africa . . . Free.

Any sort of craft, food and victuals ex-
cept spirits, and any sort of clothing,
and implements and materials fit and
necessary for the British fisheries in
America, imported into the place at or
from whence such fishery is carried on . . . Free.

Drugs, gums or resins, dye-wood and
hard-wood, cabinetmakers' wood, tor-
toiseshell, hemp, flax, and tow . . . Free.

Seeds, wheat flour, fruits, pickles, woods
of all sorts, oakum, pitch, tar, tur-
pentine, ochres, brimstone, sulphur,
vegetable oils, burr-stones, dog-stones,
hops, cork, sago, tapioca, sponge,
sausages, cheese, cider, wax, spices,
and tallow, imported direct from the
warehouse in the U. K. . . . Free.

All goods imported from the U. K., after
having there paid the duties of con-
sumption, and being exported from
thence without drawback . . . Free.

And if any of the said goods be imported through
the U. K. (having been warehoused therein,
and exported from the warehouse, or the
duties thereon, if there paid, having been
drawn back), one-tenth part of the duties
herein imposed shall be remitted in respect of
such goods.

Acts and Duties not Repealed, §§ 10, 11.
Nothing in this act to affect the act 18 Geo. III.
c. 12, nor any previous act now in force by which
duties in any B. P. in America were granted to
the crown; nor to repeal the 31 Geo. III. c. 31.
And the duties* imposed by any of the acts

owing is a Table of the principal duties here referred to:—

monly called Crown Duties) payable
imported into the British Possessions
a, over and above any other Duties.

TABLE OF DUTIES,
for the act 4 Geo. III. c. 15.

French wine, viz.: of the growth
deiras, or of any other island or
which such wine may be lawfully
and which shall be so imported from
l or place, the tun . . . £7 0 0

panish, or any other wine
ench wine), imported from
the tun . . . 0 10 0

for the act 6 Geo. III. c. 52.

l syrups, the gallon . . . 0 0 1

fish) the lb. . . . 0 0 0½

r the act 14 Geo. III. c. 88.

ortation into Canada only.)

: Brandy, or other spirits,

of the manufacture of the U. K., the
gallon . . . £0 0 3

Rum, or other spirits, which shall be
imported or brought from any of his
Majesty's sugar colonies in the West
Indies, the gallon . . . 0 0 6

Rum, or other spirits, which shall be
imported or brought from any other
of his Majesty's colonies or dominions
in America, the gallon . . . 0 0 9

Brandy, and other spirits of foreign ma-
nufacture, imported or brought from
the U. K., the gallon . . . 0 1 0

Rum, or spirits, of the produce or ma-
nufacture of any of the colonies or
plantations in America, not in the
possession or under the dominion of
his Majesty, imported from any other
place except the U. K., the gallon . . . 0 1 0

M

herein before mentioned or referred to, passed prior to the 18 Geo. III. c. 12, shall be applied for the purposes of those acts: Provided no greater proportion of the duties imposed by this act, except as herein before excepted, shall be charged upon any article which is subject also to duty under any of the said acts, or subject also to duty under any colonial law, than the amount, if any, by which the duty charged by this act shall exceed such other duty or duties: Provided nevertheless, that the full amount of the duties mentioned in this act, whether on account of such former acts, or on account of such colonial law, or on account of this act, shall be levied under the regulations of this act.

Currency, Weights, and Measures, § 12. All sums imposed by this act, in the B. P. in America, shall be deemed to be sterling money of Great Britain; and such monies may be received according to the proportion and value of five shillings and sixpence the ounce in silver; and all duties shall be paid in every part of the B. P. in America, according to British weights and measures in use on the 6th July 1825.

§ 13. The Produce of the Duties, except crown duties, under acts prior to 18 Geo. III. c. 12, shall be paid by the Collector to the Treasurer of the colony.

Tonnage Duties, § 14. All British vessels shall be subject to equal tonnage duties in the colonies, except coasting-vessels.

Drawback at Newfoundland, § 15. Upon the exportation from Newfoundland to Canada of rum or other spirits, the produce of B. P. in S. America or W. Indies, a drawback allowed of duties paid upon importation thereof into Newfoundland: Provided such spirits shall be shipped within one year of the importation, and such drawback claimed within one year from day of shipment.

Report of Ship and Cargo, § 16. The master of every ship arriving in any B. P. in America, or Guernsey, Jersey, Alderney, or Sark, shall come directly, and before bulk be broken, to the customhouse, and report in writing to the collector or comptroller, or other proper officer, of the arrival and voyage of such ship, stating her name, country, and tonnage, and if British, the port of registry, the name and country of the master, the country of the owners, the number of the crew, and how many are of the country of such ship, and whether she be laden or in ballast, and if laden, the marks, numbers, and contents of every package on board, and where the same was laden, and where and to whom consigned, and where any and what goods, if any, had been unladen during the voyage, as far as any of such particulars can be known to him; and shall further answer all such questions concerning the ship, cargo, crew, and voyage, as shall be demanded of him. Penalty for non-compliance, £100; and goods not reported shall be forfeited.

Entry Outwards, §§ 17, 1. The master of every ship bound from any B. P. in America, or Guernsey, Jersey, Alderney, or Sark, shall, before any goods be laden, deliver to the proper officer an entry outwards, under his hand, of the destination of such ship, stating her name, country, and tonnage, and if British, the port of registry, the name and country of the master, the country of the owners, the number of the crew, and how many are of the country of such ship; penalty for non-compliance, £50; and before such ship depart, the master shall deliver to the proper officer a content in writing, under his hand, of the goods laden, and the names of the respective shippers and consignees of the goods, with the marks and numbers of the packages or parcels of the same, and shall make a declaration to the truth of such content, as far as

can be known to him; and the master of every ship bound from any B. P. in America, or Guernsey, Jersey, Alderney, or Sark, whether in ballast or laden, shall before departure come before the collector, or other proper officer, and answer upon oath, all such questions concerning the ship, and the cargo, if any, and the crew, and the voyage, as shall be demanded of him; and thereupon the collector and comptroller, or other proper officer, if such ship be laden, shall give a certificate of clearance; penalty for not clearing, £100. Goods not stated in certificate to be produce of B. P. to be deemed of foreign production.

§ 19. Whenever any ship clears out from Newfoundland or other part of his Majesty's dominions, for the fisheries of Newfoundland or its dependencies, a fishing certificate is to be substituted for a clearance; but such certificate to be given up at end of season; and ships trading shall forfeit their certificate.

Entry of Goods, § 20. No goods shall be laden or water-borne to be laden, on board, or unladen from any ship, in any of the B. P. in America, or Guernsey, Jersey, Alderney, or Sark, until due entry made, and warrant granted; and no goods shall be so laden or unladen, except at some place at which an officer of customs is appointed to attend, or for which a sufferance shall be granted; and no goods shall be so laden or unladen except with permission of the proper officer; all goods laden, water-borne, or unladen contrary to regulations, shall be forfeited.

§ 21. The person entering any such goods shall deliver to the proper officer a bill of entry thereof, containing name of exporter or importer, ship, master, place to or from which bound, place where the goods are to be laden or unladen, particulars of goods, and their packages, including marks and numbers, and whether such goods be the produce of the B. P. in America or not; and such person shall at the same time pay all duties thereon; and the proper officer shall thereupon grant warrant for the lading or unloading of such goods.

§ 22. The importer, when he cannot, for want of full information, make perfect entry, may make an entry by bill of sight, by the best description which can be given; but within three days after landing of goods a perfect entry must be made, and duties paid.

§§ 23, 24. In all cases where the duties are charged according to the value thereof, such value shall be ascertained by the declaration of the importer, or his agent, in form following:—

“I, A. B., do hereby declare, That the articles mentioned in the entry, and contained in the packages [*here specifying them, and describing marks and numbers*] are of the value of

Witness my hand, the day of A. B.
The above declaration, signed the day of in the presence of C. D. collector (or other principal officer).”

Which declaration shall be written on the bill of entry of such articles: Provided that if it shall appear that the said articles are not truly valued, then the importer or his agent shall be required to declare on oath what is the invoice price, and that he verily believes such invoice price is the current value of the articles at the place from whence they were imported; and such invoice price, with the addition of ten per centum thereon, shall be deemed to be the value of the articles, and upon which the duties shall be paid: Provided also, that if it shall appear to the collector, or other proper officer, that such articles have been invoiced below the true value thereof, or if the invoice price is not known, the articles shall be examined by two competent persons, to be appointed by the governor, and such persons

are on oath what is their true value in any; and the value so declared shall be the true value upon which the duty shall be paid. And if importer refuse to pay duty, the goods may be sold.

Goods not entered and landed in any B. P. in America, the officer may land and secure them if duties be not paid within three months, the goods to be sold.

No goods shall be imported into any B. P. in America, or other colony, unless such goods appear upon the caskets, proper documents, to have been duly stamped at the port of exportation, nor on any ground upon which such advantage be stated therein.

No goods shall, upon importation into any B. P. in America, be deemed to be of the value of the U. K., or of any B. P. in America, unless imported from the U. K., or from any B. P. in America.

No entry nor warrant for landing, or removal out of warehouse, valid, unless the contents of the goods and packages in such entry correspond with the particulars in the entry on the ship, by which the importation or exportation is authorized, nor unless the goods shall be properly described in such entry by officers according to which such goods are to be imported; and any goods taken out of any ship or warehouse by any entry or warrant not agreeing in all respects, shall be deemed to be goods landed without due entry, and forfeited.

Proof of Production, § 29. Before any sugar, cocoa, or spirits, shall be shipped for exportation in any B. P. in America or in any colony, as being the produce of such proprietor of the estate on which such goods are produced, or his agent, shall make affidavit; that such goods are the produce of such estate, and such affidavit shall set forth the name of the estate, the description and quantity of the goods, the packages, with their marks and numbers, and the name of the person to whose order the goods are to be shipped; and the person entering and shipping such goods shall deliver such affidavit to the collector of customs, or other proper officer, and shall make a declaration before him, that the goods imported by virtue of such entry are the same as mentioned in such affidavit; and the master of the ship in which such goods shall be laden for clearance, make and subscribe a declaration on before the collector or comptroller, that the goods shipped by virtue of such entry are the same as are mentioned in such affidavit; upon the collector or other officer shall give to the master a certificate of production, that proof has been made, in manner required by law, that such goods (describing the goods) are the produce of such B. P., and setting forth the name of the exporter, ship, master, and destination of the goods; and if any sugar, cocoa, or spirits, be imported into any B. P. in America, as being the produce of some other possession, without such certificate, the goods shall be forfeited.

Trade on Re-exportation from another Colony, § 30.

Trade of British America, § 31-35.

Warehousing Ports, § 36. These are the ports under the heads of the colonies in which they are respectively situated.

Regulations of the Warehouses, § 37.

Trade, § 49. This island to be on the same footing as the W. Indies, as to duties, exportation and importation.

Good Hope, § 50. In all trade with

B. P. in America, the Cape of Good Hope, and dependencies, shall be deemed to be within the limits of the E. I. Co.'s charter.

Dutch Proprietors in Guiana, §§ 51, 52. The Dutch proprietors in Demerara, Essequibo, and Berbice, may supply their estates from Holland; but such proprietors may not export to the U. K. or colonies.

§ 53. Persons deemed Dutch proprietors.

§ 54. Persons not wishing to be considered Dutch proprietors to sign a declaration to that effect.

Intercourse between Jamaica and St Domingo Prohibited, § 55.

Miscellaneous Regulations, § 56. All laws or customs, in any B. P. in America, repugnant to this or any act of the U. K., so far as such act shall relate to said possessions, shall be null and void.

§ 57. No exemption from duty in any B. P., contained in any act of parliament, shall extend to any duty not imposed by act of parliament, unless and so far only as any duty not so imposed is or shall be expressly mentioned in such exemption.

§ 58. It shall be lawful for the officers of customs to board any ship, in any port, in any B. P. in America, and to search for prohibited and uncustomed goods, and also to board any ship hovering within one league of any of the coasts thereof.

§ 59. All vessels, boats, carriages, and cattle, made use of in the removal of any goods, liable to forfeiture under this act, shall be forfeited; and every person who shall be concerned in the removal or harbouring of such goods, shall forfeit the treble value thereof, or the penalty of £100 at the election of the officers of customs.

§ 60-80. Specific regulations as to seizures and the recovery of penalties.

King may Regulate Trade of certain Colonies, § 81. His Majesty, by orders in council, may make such regulations touching the trade to and from any B. P. on or near the continent of Europe, or within the Mediterranean, or in Africa, or within the limits of the E. I. Co.'s charter (excepting the possessions of the said Company), as shall appear expedient.

East Indies, § 82 Regulates the trade of the Company with the colonies in America, during the continuance of their privileges; also the trade in tea under their license, from China to the said colonies.

§ 83. It shall be lawful for the shipper of any sugar, the produce of some B. P. within the limits of the E. I. Co.'s charter, to be exported from any place in such possession, to go before the chief officer of the customs at such place, or, if there be no such officer, to go before the principal officer, or the judge or commercial resident, and make affidavit that such sugar was *bona fide* the produce of such B. P.; and such officer is required to administer such affidavit, and to grant a certificate, setting forth the name of the ship in which the sugar is to be exported, and its destination.

§ 84. All ships built within the limits of the E. I. Co.'s charter prior to the 1st January 1816, and which then and since have been solely the property of his Majesty's subjects, shall be deemed to be British ships for all the purposes of trade within the said limits, including the Cape of Good Hope.

Cape Wine Certificate, § 85. The shipper of any wine, the produce of the Cape of Good Hope, which is to be exported from thence, may go before the chief officer of the customs, and make affidavit that such wine was *bona fide* the produce thereof; and such officer is hereby required to administer such affidavit, and to grant a cer-

officers thereof, setting forth the name of the ship in which the wine is to be exported, and its destination.

Channel Islands. § 84. Any person who is about to export from Guernsey, Jersey, Alderney, or Sark to the U. K., or to any R. P. in America, goods the produce of any of those islands, or manufactured from materials which were the produce thereof, or of the U. K., may go before a magistrate of the island, and make a declaration that such goods are of such produce or manufacture, and such magistrate shall affix to such declaration, and thereupon, the governor, lieutenant-governor, or commander-in-chief of the island from which the goods are to be exported, shall, upon delivery of such declaration, grant certificates of the proof contained therein stating the ship in which and the port to which in the U. K. or in any such possession, the goods are to be exported, and such certificates shall be the proper document to be produced at such port respectively, to prove that the goods mentioned therein are of the produce or manufacture of such islands respectively.

§ 87. During the continuance of the E. I. Co.'s exclusive right of trade it shall not be lawful to import into Guernsey, Jersey, Alderney, or Sark any tea, except from the U. K.

§ 88. No brandy, Geneva, or other spirits (except rum of R. P.) shall be imported into or exported from Jersey, Guernsey, Alderney, or Sark, or removed from any one to any other of said islands, or consigned to any vessel of less burden than 100 tons (except when imported from the U. K. in ships of 70 tons at least), nor in any package of less content than 40 gallons, (except when in bottles, and carried in a square-rigged ship), nor any tobacco or snuff in any vessel of less burden than 100 tons (except when imported from the U. K. in ships of 70 tons at least), nor in any package containing less than 40 lbs. (except such spirits or loose tobacco as shall be for the use of the crew, not exceeding 2 gallons of the former and 5 lbs. of the latter, for each), and also except such manufactured tobacco or snuff as shall have been duly exported

as merchandise from Great Britain or Ireland, on pain of forfeiture of such spirits, tobacco, or snuff, respectively, together with the package, the vessel, and the apparel thereof.

§ 89. Nothing herein contained shall extend to vessels not above ten tons, supplying kind of Sark, having licence as to do.

§ 90. Every person who shall be discovered to have been on board any vessel liable to forfeiture under any act relating to the customs, for being found within one league of Guernsey, Jersey, Alderney, or Sark, having on board or conveying, or having conveyed, in any manner, such goods as subject such vessel to forfeiture, or who shall be discovered to have been on board of any vessel from which any part of the cargo shall have been thrown overboard during chase, or destroyed, shall forfeit £100.

British Coals. § 91. Not lawful for any person to re-export from any of his Majesty's possessions abroad, to any foreign place, any coals, the produce of the U. K., except upon payment of the duty to which such coals would be liable upon exportation from the U. K. to such foreign place, and no such coals shall be shipped at any of such possessions, to be exported to any foreign place, until the exporter or owner shall have given bond, with surety, in double the value of the coals, that such coals shall not be landed at any foreign place.

False Documents. § 92. Every person who shall, in any of his Majesty's possessions abroad, counterfeit or falsify, or wilfully use when counterfeited or falsified, any entry, warrant, certificate, or other document for the unloading, landing, entering, reporting, or clearing any vessel, or for the loading, shipping, or removing of any goods or articles whatsoever, or shall by any false statement procure any writing or document to be made for any such purpose, or shall falsify make oath or affirmation, or shall counterfeit or publish such certificate, knowing the same to be so counterfeited, shall for every such offence be liable £500.

Colonial Monopoly of the Home Market.—The British colonies, as already mentioned, are virtually allowed a monopoly of the home market for the sale of the principal articles of their produce. This is effected by fixing in the British tariff the duties on commodities imported from the colonies at a much lower rate than when the same description of commodities are imported from foreign countries. The following is a table of the chief differential duties in favour of the colonies:—

	Duties							Duties					
	Foreign			Colonial				Foreign			Colonial		
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Raw sugar cut	3	3	0	1	4	0	Rice cut	0	16	0	0	1	0
Molasses cut	1	3	0	0	0	0	Rough rice qr.	1	0	0	0	0	1
Coffee lb.	0	1	3	0	0	0	Fish oil ton	20	10	0	0	1	0
Spirits gall.	1	0	0	0	0	0	Seed oil ton	20	10	0	0	1	0
Wines gall.	0	8	0	0	0	0	Butter cut	0	0	0	0	0	1
Timber load	3	15	0	0	10	0	Extract of bark cut	0	2	0	0	0	1
Cotton wool cut	0	2	11	0	0	4	Honey cut	0	15	0	0	6	0
Sheep's wool lb.	0	0	1	free			Wax cut	1	10	0	0	10	0
Tallow cut	0	3	0	0	1	0	Ashea cut	0	0	0	free		
Soap, hard cut	4	10	0	1	0	0	Cocoa lb.	0	0	0	0	0	0
soft cut	3	11	3	1	3	0	Arrow root cut	0	10	0	0	1	0

W. B. United Kingdom of Great Britain and Ireland.

Besides these a protective duty of about 100 per cent. is imposed on hides and skins; furs also are protected, if from North America (chiefly Hudson's Bay). Spices, and in short all tropical productions, have likewise high differential duties in favour of the colonies.

The practical effect of these protective duties was, until lately, the complete exclusion from our markets of many of the foregoing articles when imported from

foreign countries, and especially the great staples of our West India islands; but within the last two years, owing, on the one hand, to the diminished production in these colonies since the abolition of negro slavery, and, on the other, to the increased consumption of this country, coffee and sugar of foreign growth have been entered for home consumption in considerable quantities,—the coffee by an evasion of the law that is practised by transshipping it at the Cape of Good Hope, which, being within the limits of the East India Company's charter, allows it to be introduced at a modified duty of 9d., instead of 1s. 3d. per lb.; and sugar, in consequence of the great rise of price, from the circumstances just mentioned, having more than counterbalanced the extra duty payable on the foreign articles. But were these operations could be carried on to advantage by the importer, the rise in price has been necessarily so great that the British consumer has had to pay nearly as much as what is charged for the same articles on the continent of Europe. The differential duty upon timber is also highly injurious, from its having the effect of substituting the inferior kind obtained in North America for the superior article of the north of Europe. [COFFEE. SUGAR. TIMBER.]

The injurious operation of the existing system of legislation in regard to the trade of the colonies, and in particular the hardship which it imposes upon the British consumer, have of late attracted increased attention, as is proved by the Report made last session (1840) by the Select Committee of the House of Commons upon Import Duties. The evidence collected by the committee was so conclusive as regards the vicious effects of the present system, that they felt no difficulty in urging its immediate modification, if not repeal. "Your committee," the report bears, "farther recommend, that, as speedily as possible, the whole system of differential duties and of all restrictions should be reconsidered, and that a change therein be effected in such a manner that existing interests may suffer as little as possible in the transition to a more liberal and equitable state of things. Your committee is persuaded that the difficulties of modifying the discriminating duties which favour the introduction of British colonial articles would be very much abated if the colonies were themselves allowed the benefits of free trade with all the world." (*Report*, p. vi.)

The Advantages of Colonies have been exaggerated by some, and perhaps too much underrated by others. Such establishments relieve the parent state of its superabundant population, and afford the chance of acquiring property to many who have no means at home. On the other hand, they receive from the parent state that protection and countenance which is essential to their progress as civilized communities. But in a commercial point of view, the foundation of their reciprocal benefits is, that they afford good markets to each other; while the identity of tastes, habits, and opinions, renders the intercourse of business between them more easy, agreeable, and steady than between nations of different origin. It is, however, indispensable to the continued existence of this mutual interest and affection, that the commercial intercourse between the mother country and her colonies should not be placed under restraint; for every restriction, by shutting out men from some possible source of increased wealth, tends to the impoverishment of the country, and produces ill-will towards the possessor of the exclusive privilege. The monopoly of the markets of the American colonies was one main source of the grudge against Great Britain, which led to their declaration of independence. The preference still retained by England in the markets of her colonies is rather nominal than real, as she is now the cheapest manufacturing country in the world; but it is otherwise with the monopolies of sugar, coffee, and timber, which are reserved in her markets in favour of the colonies, and the continuance of which is, as already noticed, the cause of much dissatisfaction. The amount of indirect taxation on the British consumer, produced by the present discriminating duties in favour of these three descriptions of colonial produce, being estimated in the late Report on Import Duties at from £5,000,000 to £8,500,000.

The colonial expenditure of Great Britain, for civil, naval, and military purposes, after deducting repayments from colonial revenues, was, in the year 1835-36, the latest period for which it is shown in the public accounts (*Par. Paper*, 1840, No. 632), as follows:—*Military and Maritime Stations*: Gibraltar, £139,830; Malta, £110,818; Cape of Good Hope, £242,907; Mauritius, £78,284; Bermuda, £91,446; Fernando Po, £510; Ascension, £4907; Heligoland, £1016; Ionian Islands, £118,955; St Helena, £87,558. *Plantations and Settlements*: Jamaica, Bahamas, and Honduras, £232,428; Windward and Leeward Islands, including Trinidad and British Guiana, £373,242; Upper and Lower Canada, £221,441; Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland, £161,294;

Sierra Leone and Gambia, £38,347; Ceylon, £133,805; Western Australia, £12,745. *Penal Settlements*: New South Wales and Van Diemen's Land, £533,501; general charges, £23,449. Total, £2,606,483. This, however, is exclusive of the share of the pensions and other similar expenses fairly chargeable to the account of those establishments.

It does not fall within our plan to consider the much agitated questions as to the policy which a state should pursue in the formation of colonies, and in their government. On the former head, however, it may be observed that the recent policy of Great Britain has been to recognise the self-supporting system of emigration, first broached by Mr Wakefield in his "England and America," and afterwards developed by him in the Colonial Land Committee in 1836, namely, the plan of making unappropriated lands a fund for the free importation of labouring emigrants, and the importation of such emigrants the source of value to these lands, and an attraction for capitalists. [EMIGRATION.] This plan has been followed in South Australia, and in the settlement of New Zealand, the youngest of our colonies. As to government, the British colonies have, in general, local legislatures elected by the people, and a governor and council named by the crown; and in any changes which have recently taken place, an increased disposition has been shown to leave the internal arrangements to the colonists themselves.

A statistical and commercial description of the different colonies will be found under their respective heads, and a further account of their trade generally in the article COMMERCE.

COLOUR TRADE. The manufacture of painters' colours now forms an important branch of the national industry. The tedious and unwholesome process of grinding colours in oil, for house-painting, was formerly accomplished by the hand, and by painters for their own use; but of late the manufacturing chemists have been enabled, by the application of machinery, to supply the articles so cheaply, that the old method is almost entirely superseded. This improvement in the manufacture of colours has led to their now entering pretty largely into the list of exports. In the year 1839, the declared value of painters' colours exported was £236,482. The countries to which they are chiefly sent, are the United States, West Indies, and British America; considerable quantities are likewise shipped to Australia, India, Brazil, and the North of Europe.

The following is a table of the principal substances employed as paints and dyes and for other colouring purposes in the arts:—

TABLE of substances used for colouring, with their composition.

BLACK.	
<i>Blacklead.</i>	Native carburet of iron.
<i>Blue black.</i>	Charcoal.
<i>Frankfort black.</i>	From calcined lees of wine.
<i>Ivory black.</i>	Bone charcoal.
<i>Indian Ink.</i>	Lampblack, &c.
<i>Lampblack.</i>	Soot of resinous wood.
<i>Marking Ink.</i>	Nitrate of silver and soda.
<i>Spanish black.</i>	Charcoal from cork.
<i>Writing Ink.</i>	Gallosulphate of iron.
BLUE.	
<i>Antwerp blue.</i>	Ferro-sesqui-cyanuret of peroxide of iron and alum.
<i>Blue ochre.</i>	Subphosphate of iron and earthy matter.
<i>Blue verditer.</i>	Carbonate of copper and lime.
<i>Cobalt blue.</i>	Vitrified oxide of cobalt, silica, and potass.
<i>Indigo.</i>	From leaves of <i>Indigofera</i> .
<i>Mountain blue.</i>	Native carbonate of copper.
<i>Prussian blue.</i>	Ferro-sesqui-cyanuret of peroxide of iron.
<i>Royal blue.</i>	Same as cobalt blue.
<i>Saxon or Intense blue.</i>	Indigo dissolved in sulphuric acid.
<i>Smalts.</i>	Same as cobalt blue.
<i>Ultramarine.</i>	Silica, alumina, sulphur, and soda.
<i>Ultramarine (French).</i>	Ditto with iron.
<i>Woad.</i>	From plant <i>Isatis tinctoria</i> .
BROWN.	
<i>Asphaltum.</i>	Mineral resin.
<i>Antwerp brown.</i>	Ditto.
<i>Bistre.</i>	Burnt oil from soot of wood-fire.
<i>Chestnut brown.</i>	From the horse-chestnut.
<i>Extract of Logwood.</i>	From the <i>Hæmaturia Campechianum</i> .
<i>Ivory brown.</i>	Bones partially charred.
<i>Mummy brown.</i>	Mineral resin and animal matter.
<i>Neutral tint.</i>	Sepia, indigo, and madder.
<i>Sepia.</i>	From the cuttle-fish.
<i>Sienna (Terra de).</i>	Oxide of iron and earthy matter.
<i>Sienna (Burnt).</i>	Ditto, moderately calcined.
<i>Spanish brown.</i>	Oxide of iron and earthy matter.
<i>Umber.</i>	Oxides of manganese and iron, and earthy matter.
<i>Umber (Burnt).</i>	Ditto calcined.
<i>Vandyke brown.</i>	Peat, or bog earth.
GREEN.	
<i>Brunswick green.</i>	Preparation of copper.
<i>Chrome green.</i>	Protoxide of chromium.
<i>Emerald green.</i>	Arsenite of copper.
<i>Mineral green.</i>	Carbonate of copper.
<i>Mountain green.</i>	Native ditto.
<i>Sap green.</i>	From juice of buckthorn berries.
<i>Scheele's green.</i>	Arsenite of copper.
<i>Verdigris.</i>	Subacetate of copper.
ORANGE.	
<i>Annatto.</i>	From pods of <i>Bixa orellana</i> .
<i>Orange vermilion.</i>	Bisulphate and subsulphate of mercury.
<i>Chrome orange.</i>	Dechromate of lead.
<i>Orange lead.</i>	Proto and deuto oxides of lead.
<i>Orpiment.</i>	Sulphuret of arsenic.

PURPLE.

purple. Carmine partially charred.

purple. Oxide of gold and tin.

From flower of *Lecomora tartarea*.

From the tree *Hæmatostylon Campe-*

purple. From root of *Rubia tinctoria*.

RED.

Root of *Anchusa tinctoria*.

From cochineal.

red. Dechromate of lead.

. From the insect *coccus cacti*.

or *Archil*. From the moss *Rocella*

red. A gum resin.

red. Oxide of iron and earthy matter.

red. Peroxide of mercury.

From *Coccus lacca* insect.

From Brazilwood, lac, &c.

From root *Rubia tinctoria*.

red. A species of Brazilwood.

Deutoxide of lead.

red. Peroxide of iron and earthy matter.

Safflower and French chalk.

. From flowers of the plant.

red. Oxide of iron and earthy matter.

red. Bisulphuret of mercury.

red (Chinese). Ditto of arsenic.

WHITE.

white. Carbonate of lead.

white. Carbonate and sulphate of

lead.

white. Carbonate of lead.

white Nottingham white. Ditto.

white (true). Pulverized pearls.

(*white*). Oxide of bismuth.

white. Carbonate of lead.

white. Carbonate of lime and clay.

Tin white. Oxide of tin.

White chalk. Carbonate of lime.

White lead. Carbonate of lead.

Zinc white. Oxide of zinc.

YELLOW.

Brown ochre. Protoxide of iron and earthy matter.

Chrome yellow. Chromate of lead.

Dutch pink. Carbonate of lime and French berries.

French berries. Unripe berries of *Rhamnus in-*

fectoria. From wood of a species of mulberry.

Gamboge. A gum resin.

Indian yellow. Uriophosphate of lime.

Lemon yellow. Chromate of baryta.

Madder yellow. From root of *Rubia tinctoria*.

Massicot. Protoxide of lead.

Naples yellow. A compound of the oxides of lead and antimony.

Orpiment or King's yellow. Sulphuret of arsenic.

Oxford ochre. Protoxide of iron and earthy matter.

Patent yellow. Chloride and oxide of lead.

Queen's yellow or Turpeth mineral. Subsul-

phate of mercury. From bark of *Quercus tinctoria*.

Realgar. Protosulphuret of arsenic.

Roman ochre. Protoxide of iron and earthy matter.

Saffron. From flower of *Crocus sativa*.

Stone ochre. Protoxide of iron and earthy matter.

Sumach. From flower of *Rhus coriaria*.

Turneric. From root of *Curcuma longa*.

Weld. From the plant *Reseda luteola*.

Yellow ochre. Protoxide of iron and earthy matter.

JAMBO-ROOT. [CALUMBO-ROOT.]

BS (Fr. *Peignes*. Ger. *Kamme*. It. *Peltini*. Por. *Pentes*. Sp. *Peines*), combs for cleaning and adjusting the hair, the common kinds of which are of horn or bone, the finer generally of tortoise-shell. Combs are manufactured in most of our large towns.

MERCE is the interchange of commodities, whether manufactures or mineral products, for money or for other commodities.

I.—HISTORICAL SUMMARY.

The origin of commerce must be ascribed to the period when man first acquired a notion of property so perfectly as to be acquainted with the most simple of all forms, that of exchanging by barter one rude commodity for another. The natural ingenuity of his nature would then readily suggest to him a new method of satisfying his enjoyments by disposing of what was superfluous in his own possession in order to procure what was necessary or desirable in those of other men. Commercial intercourse would thus begin and gradually spread to neighbouring districts, but no important interchange could take place between contiguous districts, soil and climate being nearly the same, would yield similar productions, and the remote countries could not carry on a very extensive intercourse by land, the necessary extension of commerce could take place only in those states that cultivated the art of navigation. The rude construction of vessels among the ancients, their ignorance of the polarity of the magnet, rendered their maritime efforts timid, uncertain, and unimportant. The Egyptians, soon after the commencement of their monarchy (B. C. 2188), are said to have opened a trade between the Red Sea and India; but the Phœnicians were the first truly commercial people of whom we have any authentic record. The genius, policy, and laws of the Phœnicians were entirely commercial, and the trade carried on by them, especially Tyre (*Ezekiel*, c. xxvii. B. C. 588) and Sidon, was more extensive than that of any other state in the ancient world. They were a nation of merchants who aimed at empire of the sea, and actually possessed it. Their ships not only frequented the ports of the Mediterranean, but visited the western coasts of Spain and in many of which places they founded colonies; while, through means of their possessions by them in the Red Sea, they established an intercourse with

Arabia, India, and the eastern coast of Africa. The vast wealth thus acquired by the Phœnicians incited in their neighbours the Jews, under the prosperous reigns of David and Solomon (B. C. 1014), a desire to be admitted to some share of the eastern trade ; but the peculiar institutions of the Jews formed a national character incapable of that free intercourse with strangers which commerce requires. The Phœnicians, however, transmitted the commercial spirit in full vigour to their own descendants the Carthaginians, who (B. C. 263) pushed their navigation and discoveries towards the west and north, far beyond the views of the parent state, but do not seem to have aspired to any share of the commerce with India. The maritime power of the Phœnicians was annihilated by Alexander's conquest of Tyre in the year B. C. 332 ; and the empire of the Carthaginians was overturned by the Romans in the year B. C. 146.

Neither the Greeks nor the Romans imbibed the commercial enterprise which distinguished the Phœnicians and Carthaginians. Several of the Grecian states applied themselves to commerce with considerable success ; but they hardly carried on any trade beyond the limits of the Mediterranean, and their chief intercourse was with their colonies in Asia Minor, Italy, and Sicily. The genius of Alexander, however, effected a revolution in commerce hardly inferior to that in empire, occasioned by the success of his arms. His expedition to the east, and the voyage of discovery accomplished under his auspices by Nearchus (B. C. 325) down the Indus, and along the Persian Gulf, considerably enlarged the sphere of geographical knowledge. The long and vigorous check also which he encountered from the republic of Tyre having afforded him an opportunity of observing the vast resources derived by it from trade, he was led to form the plan of rendering his dominions the centre of commerce as well as the seat of power. With this view he founded the city of Alexandria (B. C. 332) near one of the mouths of the Nile, that by its proximity to the Red Sea and the Mediterranean, it might command the trade both of the east and the west. This situation was chosen with such discernment, that Alexandria soon became the chief commercial entrepôt of the world ; and amidst all the successive revolutions in those countries, commerce, particularly that of the east, continued, until the discovery of the Cape of Good Hope, to flow in the channel which the sagacity of the Macedonian had marked out for it.

The commerce of the Romans was still more inconsiderable than that of the Greeks. Their military education and the spirit of their laws concurred in estranging them from trade and navigation,—pursuits which would have been deemed a degradation of a Roman citizen ; and the commerce of Greece, Egypt, and other conquered countries continued to be carried on in its usual channels after they became provinces of the western republic. The influence of Roman policy, however, appears upon the whole to have been favourable to commerce. "The union of nations," says Dr Robertson, "was never so entire, nor their intercourse so perfect, as within the bounds of this vast empire. Commerce under the Roman dominion was not obstructed by the jealousy of rival states, interrupted by frequent hostilities, or limited by partial restrictions. One superintending power moved and regulated the industry of mankind, and enjoyed the fruits of their joint efforts" (*History of America*). The chief progress made under the reigns of the emperors was in the commerce with India, from whence increasing supplies were imported for the use of the luxurious inhabitants of the capital. The course of the monsoons was then discovered, and vessels in pursuing this trade, instead of coasting along, boldly stretched across the Arabian Sea. The Indian trade, according to Pliny, drained the empire annually of more than £400,000 ; and Strabo states that 120 vessels sailed yearly from the Red Sea to India, chiefly to Musiris on the Malabar coast.

After the removal by Constantine of the seat of government to Constantinople (A. D. 330) the Roman empire became divided and its force weakened, and it was finally overturned (A. D. 476) by barbarous invaders from various quarters. These parcelled out Europe into many small and independent states, which, occupied by such inhabitants, may be said to have returned to a second infancy. The names of stranger and enemy became once more words of the same import, and commercial intercourse with distant nations would have nearly ceased had not Constantinople escaped the destructive rage of the barbarians. In that city the knowledge of ancient arts was preserved, the luxuries of foreign countries were in request, and commerce continued to flourish when it was almost extinct in every other part of Europe.

The first symptoms of revival from this torpid and inactive state were discerned in Italy, where various causes concurred in restoring liberty and independence

the cities. Constantinople was at first the chief mart to which the Italians resorted, but the cheaper rate at which eastern commodities were to be obtained at Alexandria (then in possession of the Soldans of Egypt) soon led to their resorting to that place, notwithstanding the violent animosities which existed between Christians and Mohammedans. The Italians, by distributing their goods over Europe, began to impart to its various nations some taste for the productions of the East, as well as some ideas of arts and manufactures. The Crusades (1099—1249), by leading multitudes from every quarter of Europe into Asia, effected a still more extensive communication between the east and the west, the goods of which were chiefly supplied by Genoa, Pisa, and particularly by Venice, which, before the termination of the Holy War, became a great maritime state, possessing an extensive commerce and ample territories. A further acquaintance with the commercial resources of the East was obtained by means of the travels of Marco Polo, a Venetian (1295), and others. The mariner's compass was discovered about 1492, but the art of steering by it was acquired slowly. The Portuguese and Dutch were the first who under its guidance attempted the navigation of the open seas. The former, step by step, explored the coast of Africa, and in 1498 discovered the passage to India by the Cape of Good Hope. About the same time (1492) America was discovered by Columbus. The influence of these discoveries upon commerce and navigation is noticed under other heads. [COLONY. EAST INDIA COMPANY.]

The extension of trade in the north of Europe led, about the year 1241, to the formation of the famous Hanseatic league [HANSE TOWNS], the members of which formed the systematic plan of commerce known in the middle ages. The Hanse Towns, which attained their greatest power in the 15th and 16th centuries, traded extensively with the Lombards, exchanging naval stores and other bulky articles of the north for the productions of India and the manufactures of Italy. The city of Bruges in Flanders became the centre of communication between the Hanseatic and Lombard merchants, and rose in consequence to be the principal emporium in Europe, while habits of industry spread throughout the adjacent districts. Flanders and the contiguous provinces thereby became distinguished above all other countries for manufactures, skill, and opulence. The prosperity of those districts was at its height (1567) when the religious persecutions of the Duke of Alva and others drove multitudes of its most skilful artisans to other countries. The tyrannical conduct of the Spaniards, however, although ruinous to Flanders, was productive of benefit to the neighbouring country of Holland, to which, before the expiry of the 16th century, nearly the whole commerce of Bruges, Antwerp, and other Flemish cities transferred. Holland thenceforth rose to be the first commercial state. Her greatness was owing to her favourable situation, the superior industry and economy of her inhabitants, the comparatively enlightened principles of her laws, and the distance prevailing in other countries, all which contributed to render her the carrier of Europe. Her commerce was greatest from 1650 to 1670, during which period her external trade and navigation surpassed those of all Europe besides. Her subsequent decline is to be attributed partly to the natural progress and rivalry of other nations, particularly England, but mainly to the heavy taxation with which the inhabitants were burdened, in consequence of the expenses attending the wars with France, and England, and the low rate of profit which was produced by this circumstance, and the excessive accumulation of capital. Notwithstanding all the misfortune, however, which Holland has undergone, it continues, though not larger than Wales, and naturally not more fertile, to be the richest and most industrious of the states on the continent of Europe.

England, besides the common obstructions of commerce occasioned by the rigour of the feudal government, and the state of manners during the middle ages, her progress was retarded by peculiar causes. The divided state of the kingdom during the Saxon heptarchy,—the revolution of property occasioned by the Norman conquest,—the long-continued wars in support of the pretensions of her kings to the throne of France,—and the destructive contests between the houses of York and Lancaster, successively checked the growth of industrious habits, and rendered the people unfit for the pursuit of any system of useful policy. The English were accordingly one of the last nations in Europe who availed themselves of those commercial advantages which were natural or peculiar to their country. Before the reign of Edward III. all their wool, except a small quantity wrought into coarse cloths for home consumption, was sold to the Flemings and Lombards, manufactured by them; and though that monarch, in 1326, began to allure some of the Flemish weavers to settle in his kingdom, it was long before his subjects

were capable of fabricating cloth for foreign markets, and the export of wool continued to be the chief article of their commerce. All foreign commodities were brought to them by the Lombard and Hanseatic merchants. The first commercial treaty of England on record was that with Haguin king of Norway, in 1217. But the English did not venture to trade in their own ships to the Baltic until the beginning of the 14th century : it was after the middle of the 15th ere they sent any ship into the Mediterranean ; nor was it long before this period that they began to visit the ports of Spain or Portugal.

The accession of Henry VII. terminated the civil wars of York and Lancaster, and his vigorous and prudent administration (1485—1509) forms an important era in the history of English commerce. He maintained peace, facilitated commercial enterprise by negotiating treaties, modified the powers of corporations, and provided for uniformity in weights and measures ; while, by subverting the feudal system and establishing the authority of the law, he increased the numbers of the industrious classes, elevated their condition, and rendered their property secure. Henry VIII., though he degraded the coinage, was likewise disposed to facilitate commerce ; and he may be styled the founder of the Royal Navy and of the Trinity House. The Reformation, which occurred in his reign, communicated a prodigious impulse to the minds of the people, and their energies being now roused, an increased desire was felt to emulate the Spaniards and Portuguese in discovery with a view to trade. During this period the expeditions of Willoughby and Chancellor took place. Henry's successor, Mary, having espoused Philip of Spain, discountenanced all projects that might have brought England into collision with that country. But the disposition for adventure was revived during the vigorous sway of Elizabeth ; and the struggle with the Spanish Armada, and the expeditions under Drake, Raleigh, Hawkins, Cavendish, and others, developed and confirmed the national taste for maritime enterprise. The East India Company was chartered by Elizabeth in the year 1600 ; settlements were about the same time made in the East Indies ; but it was not until the reign of James I. that colonies were permanently established in North America.

The reigns of Elizabeth, James I., and Charles I. formed the era of monopolies and exclusive grants. Under Cromwell many of these were abrogated ; but it was during his protectorate that the foundation was laid of our Navigation Laws, a system perfected in the next reign by the 12th Charles II. c. 18. In this reign also, government unfortunately lent itself to the urgency of our manufacturers so far as to impose heavy duties upon foreign goods, particularly in 1678 on French commodities, a course followed with increased rigour after the Revolution of 1688 and the ensuing war ; national animosity concurring with the belief that our interests called on us to discourage the use of foreign articles. Bounties were at the same time granted on the exportation of many kinds of English goods. This was the beginning of what is designated by political economists the *Mercantile System*, a fuller explanation of which is given elsewhere. [BALANCE OF TRADE. BOUNTY. MERCANTILE SYSTEM.]

The confidence inspired by the government of the Revolution, and the now increased wealth of the country, gave life and expansion to public credit, developing almost simultaneously, however, its abuses as well as its advantages. The Funding System was introduced at that time ; in 1693, the Bank of England was established, and in 1695, the Bank of Scotland ; events which were shortly followed in the latter country by ill-fated colonial schemes (1695), and in the former by the South Sea Bubble (1720). But notwithstanding these reverses, and the increased burdens produced by two great wars (1701—1713 and 1739—1748), the industry and wealth of the country steadily advanced ; and by 1750 the mercantile navy had increased from 270,000 tons, its amount at the beginning of the century, to upwards of 600,000 tons ; Great Britain now taking the lead as the first commercial state.

The progress made by this country during the latter half of the 18th century was still more considerable, although interrupted in its first portion by the seven years' war (1756—1763), and afterwards by the insurrection of our American colonies, which began in 1775, and in 1778 extended to a struggle with France, Spain, and eventually Holland,—an arduous and expensive contest, from which this country was relieved by the peace of 1783, when these colonies were separated from the mother country. The people, however, soon recovered from the apprehension of loss of power caused by this separation ; our town population increased, and our manufactures extended, favoured as they now were by the easy conveyance of fuel and bulky goods by canals, which about this period were generally formed throughout the kingdom. Country banking also was extended without being

need, while at the same time the public revenue increased slowly but progressively. The chief branch of manufacture in England had formerly been that of woollens, and in Scotland that of linens; but the discoveries of Hargreaves, Arkwright, Watt, and others in this period, gave an entirely new aspect to the industry of the country, particularly as regards the importance communicated to all makes of the hardware trade, and the development of the cotton manufacture, which henceforward became the great staple of both parts of the island. The pulse thus communicated led to an extraordinary increase of our shipping, which, by the end of the century, amounted to about 1,600,000 tons, having thus nearly tripled since 1750.

II.—PROGRESS OF BRITISH COMMERCE FROM 1793 TO 1841.

The indications of prosperity alluded to in the latter part of the preceding section were suspended by the war of the French Revolution, which began in 1793, and was for some time productive of great commercial distress, but assumed a very different appearance after the extended circulation of bank paper in 1797, and used to bring a yearly addition to the national wealth. This ostensible prosperity continued during the principal part of the war. The transition to peace, however, produced a fall of prices in every department of business, and the year 1802 was among the most gloomy in our commercial history. A revival took place in 1807 and 1812, also in 1823. The year 1824 was a period of prosperity, but it was followed by excitement and overtrading, which resulted, in the end of 1825, in commercial pressure and revulsion of almost unprecedented severity. A somewhat similar alternation of prosperity and distress again occurred in the years 1835 and 1837 respectively; and since then our commerce has been almost uniformly depressed.

The limits of the present article do not admit of our considering in detail the progress of trade during the extraordinary period that has elapsed since 1793; the following table contains a digest of the principal events that occurred; preceded to which is an abstract of the yearly amount of our imports and exports in 1800, when the legislative union took place between Great Britain and Ireland.

CHRONOLOGICAL SUMMARY OF THE PRINCIPAL EVENTS AFFECTING BRITISH COMMERCE FROM 1793 TO 1841.

- | | |
|---|---|
| <p>1. War declared by France against Great Britain.</p> <p>2. February 22. Order in Council prohibiting the Bank of England from paying their notes in specie,—a measure shortly afterwards ratified by the <i>Bank Restriction Act</i>.</p> <p>3. A series of deficient harvests began in 1795, which were aggravated to dearth in this year and 1801.</p> <p>4. October 1. Suspension of hostilities with France; followed by Peace of Amiens in 1802.</p> <p>5. May 21. War again broke out between France and Great Britain.</p> <p>6. The <i>Warehousing System</i> introduced (43 Geo. III. c. 128).</p> <p>7. The commerce with the United States now rises into great importance; in this and the two following years, nearly one-third of our foreign export trade being carried on with them. In this period the merchants of the United States were accustomed to sell their produce in the Continental markets to a much greater amount than their purchases in these markets; while in their dealing with this country, they had every year a large balance to pay to it. The means of liquidating this balance were furnished by the excess of their Continental sales, the amount of which was paid to the agents of the British government for bills upon the Treasury, which came as a remittance to our exporting merchants, and thus were funds placed at the disposal of our armies, and provided for the payment of subsidies.</p> | <p>1800. Steam navigation established by Fulton in the United States, on the river Hudson, between New York and Albany.</p> <p>— November 21. Bonaparte issued his <i>Berlin Decree</i>, whereby he declared all the ports of Great Britain in a state of blockade, and forbade all trading with us, or in the articles of our produce and manufactures, declaring such to be liable to seizure and condemnation, and forbidding the importation into the countries under his control, which then included nearly all continental Europe, of any goods of such kinds as were included among the home or colonial productions of this country, unless they should be accompanied by certificates, showing their origin to have been other than British: this was the commencement of what is sometimes called the <i>Continental System</i>.</p> <p>1807. March. Slave-trade abolished by Great Britain.</p> <p>— November 11. British <i>Orders in Council</i> issued, declaring, as the only condition upon which neutrals might trade with countries not at peace with Great Britain, that the vessels in which that trade was carried on should touch at some port in this country, there to pay such amount of customs duties as should be imposed by the British government; and any vessel found to have on board the certificate of origin required by the French government was declared lawful prize.</p> <p>— The government of the United States, finding its flag was excluded from the Continent by the Berlin Decree and the Orders in Council, interdicts altogether the trade</p> |
|---|---|

- of its subjects with either of the belligerents: first (December 22), by blockading its own ports; and next (1809, May 20), by a law forbidding intercourse with the belligerents.
1807. December 27. Bonaparte issued his *Milan Decree*, declaring that any ship that should have paid any tax to the British government, or that had submitted to be searched by any British authorities, was thereby *denationalized*, and became a good and lawful prize.
1808. The East India Company begin to grant licenses to the owners of Indian vessels to trade between India and China.
1810. February 19. Treaty of commerce and navigation between Great Britain and Portugal.
- The House of Commons appoint *The Pollution Committee* to inquire into the difference in value of Bank of England notes and gold, whose report is presented to parliament in June.
- Harvest greatly deficient.
1811. March 2. The United States pass another non-intercourse act against Great Britain; the former having been repealed by a law of 1st May 1810.
- Steam navigation introduced into the United Kingdom; the first vessel worked for hire being the *Comet*, of three horse power, which plied on the Clyde.
1812. June 4, 17. War declared against Great Britain by the Congress of the United States.
1813. The East India Company's charter renewed for 20 years, from April 22, 1814 (53 Geo. III. c. 155), when the trade with India was thrown open to the British public.
- October 16-19. The battle of Leipzig, an event followed by the opening of the principal ports on the continent of Europe to the trade of Great Britain.
1814. May 30. Peace between Great Britain and France; which, however, was interrupted for a short period (March-July) in the following year, by the return of Bonaparte.
- December 24. Peace of Ghent between Great Britain and the United States.
1815. July 3. Treaty of commerce between Great Britain and the United States.
1816. New silver coinage (56 Geo. III. c. 68), and the Mint standard of silver raised from 5s. 2d. to 5s. 6d. per ounce.
- September 26. Treaty of commerce and navigation between Great Britain and the Two Sicilies.
- Deficient harvest followed by large importations of foreign corn.
1819. The statute 59 Geo. III. c. 49 (*Mr Peel's Act*), passed, providing for the gradual resumption of specie payments by the Bank of England.
1820. February 1. The Bank of England commences to exchange its paper for bullion.
1821. May 1. The Bank of England recommences payment of its notes in current gold coin.
1822. Various relaxations of our navigation laws effected by five acts (3 Geo. IV. c. 41, 42, 43, 44, and 46), introduced by Mr (afterwards Lord) Wallace, then President of the Board of Trade.
1823. October 30. The British government sends consuls to the new states of South America.
1824. April 2. Treaty of commerce between Great Britain and Prussia.
- June 16. Commercial treaty between Great Britain and Denmark.
1824. March 17. Treaty between Great Britain and the Netherlands respecting Indian commerce and territories.
- The navigation laws further the introduction, by Mr H. B. Hall, of *The Reciprocity System* (4 Geo. IV. c. 1), a measure which had become expedient in consequence of the attitude assumed by Prussia.
- Institution of joint-stock bank.
1825. January 1. Mr Canning announces the intention of the British government to negotiate treaties of commerce with the new South American states on the basis of the recognition of their independence respectively: this is afterwards carried into effect with Peru, of the Rio de la Plata, Colombia, and the others.
- February 7. Treaty between Great Britain and Russia, regulating the relations between their possessions on the west coast of America.
- September 29. Treaty of commerce and navigation between Great Britain and the Hanse Towns.
- Great commercial excitement throughout the kingdom, and numerous companies associated for barter, exchange, and other purposes, including seventy associations for the purpose of opening the South American mines, the whole of which proved ruinous to the venturers.
- December 12. General commercial crisis commenced by the failure of the banking-house of Pole & Co.
1826. January 1. The *Imperial System* and measures came into operation.
- January 5. Currency of Ireland altered to that of Britain.
- January 26. Treaty of commerce between Great Britain and France.
- July 5. Repeal of system of duties against the importation of manufactured silk goods, effected by the introduction of a modified scale of duties to be in operation after this date.
- Branch banks first established in England.
- Joint-stock banks allowed to be established in all parts of England, except the metropolitan district.
1827. A new registry act for shipping (c. 110 (now superseded by 3 Geo. IV. c. 55) came into operation.
1828. May 13. The United States proposing prohibitory duties on principal articles of British manufacture, passes the American senate.
- Deficient harvest followed by large importations of foreign corn.
1829. December 21. Treaty of commerce and navigation between Great Britain and Austria.
1830. September 15. Opening of the Liverpool and Manchester railway: the first train sent by it on the 11th of the following month.
- October 10. Duties on ale and beer ceased from this date.
- Bounties on linen and all other manufactures ceased.
1833. March. Modification of the tariff; chiefly in consequence of the attitude of South America.
- August 29. The charter of the Bank of England renewed by the act 3 Geo. IV. c. 98.
- Relaxation of the usury laws and bills of exchange.

when commercial union comes into operation.

The East India Company prohibition trading after this date, when charter expired.

1. Emancipation of the negro in the British colonies,—an indemnity of £20,000,000 being granted to their by parliament.

Commercial excitement throughout entry and the United States.

A total derangement of commerce in the United States; all their suspended specie payments; and very few failures occur, the effect of is felt to a considerable extent in Britain, especially in the manufacturing districts.

Insurrection in Canada of South Australia established.

The Great Western steam-ship from Bristol to New York, where arrived April 23. This voyage established the practicability of the steamship of the Atlantic.

1. War between France and Mexico the Mexican ports blockaded; ended March 9, 1839, through the Hon of Great Britain.

1838. July 3. Treaty of commerce with Austria; and with Turkey, November 18.

Deficient harvest, followed by extensive importations of foreign corn, an adverse state of the exchanges, and considerable pressure in London and other districts.

1839. April 15. The Chinese arrest the British superintendent at Canton, Captain Elliot, and several merchants, who are compelled to deliver up (May 30) opium to the amount of £3,000,000.

November 24. The trade between Great Britain and China stopped by order of Lin, the imperial commissioner.

1840. January 10. The uniform Penny Postage commenced on all letters not exceeding half an ounce in weight, between places in the United Kingdom.

May 16. An addition of 5 per cent. to be levied, after this date, on all customs and excise duties, except on spirits (which pay an additional 4d. per gallon), corn imported, horses let on hire, &c.

May 31. The islands of New Zealand proclaimed to be British territory.

June 28. Blockade of the river and harbour of Canton by the British.

November 16. Treaty of commerce between Great Britain and Texas.

of the Amount of the Foreign and Colonial Trade of the United Kingdom, in each year from 1801 to 1839:—

Official Value.			Real or Declared Value of British and Irish Produce and Manufactures exported.		
Exports of Foreign and Colonial Merchandise.	Exports of Foreign and Colonial Merchandise.	Exports of British and Irish Produce and Manufactures.	Europe.	Other Places.	Total.
£	£	£	£	£	£
31,786,983	10,336,998	24,947,694	....	...	39,730,639*
29,836,210	12,677,431	23,639,549	....	..	45,109,330*
26,623,056	8,032,643	20,467,531	....	..	36,197,787*
27,819,569	8,938,741	22,687,309	....	..	37,135,746*
29,541,270	7,643,130	23,376,941	13,085,676	24,451,408	39,077,144
29,899,654	7,717,553	25,861,879	11,363,634	29,511,348	40,874,983
26,734,436	7,624,319	23,381,914	9,002,237	28,243,640	37,245,877
26,796,340	5,776,775	24,611,215	9,016,033	26,259,969	37,276,102
31,730,567	12,794,338	33,549,274	15,849,449	31,521,944	47,371,393
29,301,612	9,367,435	34,061,901	16,627,806	34,810,874	48,438,680
28,610,188	6,117,720	22,691,400	19,834,680	20,066,032	32,820,712
29,163,431	9,333,065	29,346,608	....	...	41,716,964
Records destroyed by fire.			26,800,591	10,624,628	48,424,219
29,766,364	19,365,981	34,297,253	20,736,244	30,988,784	51,603,028
29,927,306	15,740,654	42,673,506	18,653,553	23,064,718	41,657,873
27,431,604	13,460,720	36,717,070	19,083,574	22,667,530	41,761,139
29,834,280	10,287,084	40,111,427	19,439,302	27,161,897	46,603,249
26,825,182	10,859,817	42,700,621	18,790,652	18,417,889	35,208,121
29,776,810	9,904,813	33,534,176	18,429,603	17,905,149	36,424,652
29,438,660	10,556,912	36,366,625	15,903,442	20,786,188	36,689,630
29,792,780	10,626,080	40,831,744	16,601,662	20,367,409	36,969,074
29,541,004	9,227,689	44,236,553	14,857,128	20,600,920	35,458,048
29,798,707	8,023,904	43,804,374	15,038,040	24,627,389	40,365,340
27,666,936	10,204,783	46,735,661	14,646,350	24,231,070	38,877,380
44,137,482	9,169,404	47,109,020	13,860,270	17,643,453	31,503,723
27,686,112	10,076,285	40,965,735	14,478,964	22,702,371	37,181,335
44,227,774	9,030,728	58,218,280	13,775,870	23,076,805	36,812,796
46,028,206	9,946,645	52,777,456	14,545,474	21,297,149	35,842,623
42,981,717	10,623,402	56,313,041	15,610,638	22,000,069	38,271,567
46,345,341	11,550,437	61,140,804	13,350,440	23,013,932	37,164,372
49,713,880	10,745,071	60,683,923	18,804,006	20,892,568	30,430,894
44,606,741	11,044,800	55,096,709	15,611,780	24,455,578	30,607,347
46,202,261	9,031,753	60,989,330	18,147,033	23,442,158	41,640,191
49,362,811	11,862,036	73,831,550	18,464,433	20,907,827	47,372,270
48,911,642	12,797,734	78,376,731	19,011,686	34,357,505	53,368,571
27,023,867	12,391,711	63,229,837	19,071,303	22,980,441	42,070,744
24,737,301	13,233,029	72,348,047	21,711,206	28,749,675	50,060,870
61,268,280	12,711,316	92,469,231	20,414,520	32,819,000	53,233,520
62,094,000	12,796,000	97,402,796			

* Only to Great Britain only: the exports from Ireland are, however, inconsiderable.

The official value stated in the preceding table is based according to a scale established in the year 1861, when prices were altogether different from what they are at present: but the system has been preserved in the public accounts without alteration, because it is supposed to afford a correct measure of the comparative quantity of merchandise which has been sent to the rest of our imports and exports. On the other hand, the *ex-ante* or *declared* value is estimated as the market price, according to the rates declared by the exporting merchants; this latter method, however, is only applied to the exports of the produce and manufactures of the United Kingdom.

If the progress of our foreign commerce be measured according to the official valuation, it appears that the increase since the commencement of the century has been very great: the amount of exports of British produce and manufactures within this period having indeed been nearly tripled. But if the declared value is to be assumed as the test of these facts, it will be seen that little or no progress has been made,—that in fact, if one or two late years are excepted, the amount of our foreign trade has not been equal to that which was carried on during some of the years when we were at war with nearly all Europe, nor to that of the first five years of peace that followed. A still less flattering aspect is presented by that part of our commerce which, being carried on with the rich and civilized inhabitants of European nations, should present the greatest field of extension,—more especially when we look to the change which has of late taken place in the nature of our exports to those countries. This is shown in the following table prepared by Mr Porter, of the Statistical Department of the Board of Trade (*Par. Report on Import Duties*, 1840, No. 501), and which exhibits facts of the utmost importance to the general interests of the country.

TABLE showing the value of British Produce and Manufactures exported to various districts or quarters of the world in 1827 and 1838, distinguishing finished manufactures and goods into the value of which much labour has entered, from materials of manufacture, and goods upon which but little labour has been bestowed; showing also the centesimal proportions of each of these two descriptions:—

	1827.				1838.			
	Goods into the Value of which has entered		Centesimal Proportion of Colours		Goods into the Value of which has entered		Centesimal Proportion of Colours	
	Much Labour.	Little Labour.	Number	Number	Much Labour.	Little Labour.	Number	Number
	1.	2.	1.	2.	1.	2.	1.	2.
	£	£			£	£		
Russia, Sweden, Norway, & Denmark....	406,437	1,101,369	31-15	68-35	422,081	1,602,696	20-84	79-16
Prussia, Germany, Holland & Belgium.....	4,773,648	2,139,865	68-84	31-16	4,193,921	5,567,641	43-96	57-04
Southern Europe.....	4,967,269	938,432	83-68	16-12	7,493,907	2,619,387	74-09	25-91
Cape of Good Hope....	196,998	19,590	91-95	9-15	576,555	46,788	92-49	7-51
Mauritius.....	173,874	21,839	88-84	11-16	414,240	53,102	88-63	11-37
Other parts of Africa...	224,378	34,839	86-56	13-44	689,961	67,130	91-13	8-87
Asia.....	3,812,199	647,123	85-48	14-52	4,508,077	1,110,879	80-23	19-77
Australia.....	295,424	44,706	86-85	13-15	1,198,900	137,762	89-68	10-32
British North American Colonies.....	1,150,340	238,010	83-96	17-04	1,745,833	246,694	87-62	12-38
British West Indies....	2,927,228	655,994	81-69	18-31	2,916,129	477,312	85-93	14-07
Foreign West Indies....	860,723	46,586	94-86	5-14	1,222,326	93,205	92-91	7-09
United States of America	6,725,676	292,596	95-83	4-17	6,782,077	803,683	89-40	10-60
Brazil.....	2,137,111	174,998	92-43	7-57	2,420,806	185,796	92-87	7-13
Other parts of S. America & Mexico.....	1,648,936	43,274	97-44	2-56	2,072,821	47,480	97-75	2-25
Guernsey, Jersey, Alderney, & Man.....	275,265	45,694	85-76	14-24	288,059	55,795	83-77	16-23
Total .	30,696,476	6,484,859	82-56	17-44	36,945,696	13,115,974	73-80	26-20

Comparing 1827 with 1838, it appears, that the proportion of fully manufactured goods exported in the former year was 82-56 per cent.
In the latter year, 73-80 ...

If the shipments to British colonies and dependencies are separated from those to foreign countries, it appears that the proportionate value of the aggregate shipments in those two years was nearly the same, viz. :—

		Centesimal Proportions.
Value of Shipments to Colonies		28·27
..... to Foreign Countries		71·73
		100
Value of Shipments to Colonies		27·52
..... to Foreign Countries		72·48
		100

These values are separated according to the degree of labour bestowed, it is found that the proportions are,

		Much Labour.	Little Labour.	
Colonies	1827	84·09	15·91	100
.....	1838	84·55	15·45	100
Foreign Countries	1827	81·95	18·05	100
.....	1838	69·72	30·28	100

If further the shipments to Northern Europe, it will be found that the proportions are,

	1827.	1838.
Much labour	61·78	39·16
Little labour	38·22	60·84
	100 -	100 -

The amount of Shipments in 1827 and 1838 to British Colonies, to Foreign Countries generally, and to Northern Europe, was as follows :—

	1827.			1838.		
	Much Labour.	Little Labour.	Total.	Much Labour.	Little Labour.	Total.
Colonies.....	£ 8,840,268	£ 1,672,956	£ 10,513,224	£ 11,647,793	£ 2,128,242	£ 13,776,035
Foreign Countries gen-	21,856,908	4,811,903	26,668,811	25,297,903	10,987,032	36,284,935
	30,696,476	6,484,859	37,181,335	36,945,696	13,115,274	50,060,970
Northern Europe.....	5,272,085	3,261,178	8,533,263	4,616,002	7,170,339	11,786,341

These results afford strong evidence of the unsatisfactory footing upon which our relations with the nations of Europe are established. These countries, especially those of the North of Europe, which now take a diminished proportion of our highly manufactured commodities, possess an abundance of productions which we want, which they are naturally desirous of exchanging for the products of our looms and our mines ; but by our imposing high duties upon corn and the principal articles they have to give us in exchange, they have, in order to support their own population, been driven to manufacture for themselves ; “ and the President of the Manchester Chamber of Commerce lately remarked, “ our rivals where we should otherwise have had customers.” Similar obstacles exist to the extension of our intercourse with other countries, arising, no less from the anti-commercial system of legislation of the governments of those countries than of our own. In the report lately presented to the House of Commons by the Committee on Import Duties, the progress of manufactures in Europe, the growing competition with which our merchants have now to contend in foreign markets, and the consequent necessity of releasing their goods from the unequal burden of our taxation, are very fully explained.

It is shown clearly that the complicated system of our duties tends, besides other evils, to derange the natural course of trade, and to place our manufacturers at disadvantages who go abroad in quest of a market. One of the remedies suggested in this report is given in the article **TARIFF**, to which we likewise refer for other details relating to the present condition of foreign commerce.

III.—PRINCIPLES OF COMMERCE.

It may be partly inferred from what has been already stated. Commerce is not productive of wealth in an indirect manner. The merchant produces nothing on the articles which he buys and sells : he merely exchanges one commodity for another ; and in general, what is given is the exact equivalent of what

is received. The advantage of commerce—and it is difficult to overestimate its importance—consists in the uninterrupted scope and efficiency which it gives to the division and distribution of labour, by placing it in the power of individuals to prosecute continuously such employments as suit their taste or capacities. The intervention of the commercial class gives continuous motion to the national industry. They collect together every variety of commodities in warehouses and shops, and enable individuals, without loss of time, to supply themselves with whatever they want. Without the assistance of the merchant, it would not be possible to confine ourselves to one branch of industry, and all the advantages of co-operation and combination would be lost. Commerce, besides, is eminently conducive to the wealth and prosperity of a country, by balancing what is deficient in one district with what is superfluous in another; and by enabling it to import the commodities for the production of which the soil, climate, capital, and industry of foreign countries are best calculated, and to export in payment those articles for which its own situation is better adapted. By this distribution of the various articles suited to the accommodation of man in different and distant regions, or, as it may be described, this *territorial division of labour*, Providence has, by a beautiful arrangement, and one which will probably lead to the general civilisation of the world, provided for the mutual dependence of individuals and nations, and made even their selfish pursuits subservient to the general good.

In order that each community may avail itself to the uttermost of its peculiar means of production, it is essential that commercial intercourse should be free and unrestricted. Respecting the freedom of the home trade, or that between different parts or provinces of the same country, no difference of opinion is now entertained. Without this freedom there would have been little or no wealth, only a limited population, and that population rude and barbarous. But although foreign trade is to all the countries in the world merely what home trade is to the different provinces of the same country, it is contended that it should be regulated in a different manner. It is alleged that the importation of foreign commodities prevents the employment of so much native industry as would be required to fabricate those goods, or some substitutes for them, at home; and that this injury is in no degree compensated by the comparative cheapness of the foreign commodities to the consumer.

In this argument the attention is confined to the effect of the importation of the superior foreign article on those persons in the importing country who are already engaged, or would, but for such importation, engage themselves in the manufacture of the commodity in question, or its substitute. It is altogether overlooked that the importation is only an exchange of some product of home industry for some other of foreign industry; that the equivalents of the foreign commodities must be first produced here, and then exported in exchange for them, or their introduction would be impossible; for assuredly foreigners never send us their goods except in return for an equivalent, and we can of course export nothing which is not the produce of British industry. Every obstacle, therefore, to the importation of any foreign commodity is precisely to the same extent an obstacle to the exportation of an equivalent of British produce or manufacture. And the injury sustained by the consumers of the protected articles from their higher price or inferior quality, is uncompensated by the advantage derived by any other class; the effect of all protecting duties being to diminish the general productiveness of the national industry, by confining it to such employments as are less productive of value than those which without such interference would be undertaken. Hence, in all cases where high duties are imposed to afford protection, foreign commerce must in the nature of things be diminished to a greater extent than domestic industry is encouraged.

The principle of free trade, however, is opposed by many in this country who do not attempt to deny the axiom, that every importation causes a correspondent exportation, on the following grounds:—

1. "The producers of such a highly taxed country as Great Britain ought to be protected from the competition of comparatively untaxed foreigners."

If the taxes are levied equitably, it is obvious that the producer of the commodity which would be exported in exchange for that which is imported, is as much burdened as the producer of the article which the latter would supersede. If, on the other hand, the taxes are not levied equitably, the remedy is to equalize them, not to make the imposition of one injustice the defence for another.

2. "A country loses by the importation of the goods of another, unless there is a *reciprocity* in the free admission of her goods, on the same terms, into the latter."

If Prussia sends goods into England, while the admission of goods from England

Prussia are prohibited, and the goods received by England are paid in specie, it is that in order to render it profitable for an English merchant to export specie for Prussian goods, he or some other merchant must find it profitable to send an equal quantity of it in exchange for goods of home production, from Peru, or some other country into which British goods find their way. If a quantity of specie could not be bought somewhere with English goods, its exportation to Prussia would speedily raise its value in this country so high, that it would no longer be profitable to export it in exchange for Prussian commodities. The transaction may be regarded as one transaction. The merchants of England, as a rule, would find it not profitable to export specie for goods, unless it were equally profitable to purchase specie with goods. It is well known, however, that in fact gold or silver is employed for such purposes. [BALANCE OF TRADE. *See*.] If England imports from Prussia more goods than it sends thither, the balance is mostly paid by goods sent from other countries which receive from England more than they send, and their mutual balances are adjusted by the issue of bills of exchange. Any obstacle, therefore, to the interchange of goods between one country and another, is as injurious to that imposing the restriction as to that on whose productions the restrictive duty is imposed; every tax upon importation acting to the same extent as a tax upon exportation. If France exports her iron and yarns, she suffers from such policy quite as much as this country.

In whichever of two countries the restriction is imposed, there is sure to be a reciprocity of injury; and the benefit of every relaxation, from whichever it is removed, is sure to be enjoyed by both.

It is the policy of a nation to be independent of foreign supplies, in case it is deprived of such supplies by war."

This policy is false in principle and ruinous in practice. In the fear of war a system of protection should be maintained, the tendency of which is to perpetuate war. More quarrels are engendered by the commercial system of exclusion than by all the other passions of subjects and rulers. The best way to preserve the nations in peace, is to let them prove how dependent each is upon the others for profitable employment of its people, and for the comforts resulting from profitable employment.

The system of protection was introduced into European policy in 1667 by M. Colbert, minister to Louis XIV. of France, and it has been since steadily acted upon by all nations, on the mistaken notion which has been generally entertained, that protection of trade was a necessary part of the duty of the executive government; and there are few political errors which have occasioned greater mischief.

The regulating mania which it inspired has tormented industry in a hundred ways to force it from its natural channels. Besides falsely teaching nations to regard the welfare of their neighbours as incompatible with their own, it bred a spirit of conspiracy of class against class, and interest against interest, every one trying to gain legislative favour at the expense of the rest. The most articles have been artificially enhanced by protective duties or legislative monopolies. By this system of each robbing each, all parties have been injured, and the sum of national wealth has been proportionally lessened.

The policy of abandoning the restrictive system was long regarded with jealousy by the commercial classes; but juster and more liberal opinions now prevail. In 1820, many of the principal mercantile houses in London joined in a petition to Parliament, embodying the substance of all the principles of free trade which they have endeavoured to explain, and particularly the following:—

1. That freedom from restraint is calculated to give the utmost extension to foreign trade, and the best direction to the capital and industry of the country.

2. That the maxim of buying in the cheapest market, and selling in the dearest, regulates every merchant in his individual dealings, is strictly applicable as a rule for the trade of the whole nation.

3. That of the numerous protective and prohibitory duties of our commercial code, it is proved, that, while all operate as a heavy tax on the community at large, none are of any ultimate benefit to the classes in whose favour they were originally constituted, and none to the extent of the loss occasioned by them to the community.

4. That, as the necessity for the present amount of revenue subsists, your petitioners cannot expect so important a branch of it as the customs to be given up, or materially diminished, unless some substitute less objectionable be suggested. But it is against every restrictive regulation of trade, not essential to the revenue, and against all duties merely protective from foreign competition; and against

the excess of such duties as are partly for the purpose of revenue, and partly for that of protection,—that the prayer of the present petition is respectfully submitted to Parliament."

The attention which this petition was the means of drawing to the anti-commercial principles of our restrictive system, powerfully tended to bring about the successive relaxations which, since its presentation to Parliament, have been made in our commercial code. Within the last few years, several circumstances have combined to draw public attention still more strongly to this subject. At a meeting of the Chamber of Commerce of Manchester, to receive the report of Dr Bowring on the Prussian Commercial League, the following resolution was passed, disclaiming protecting duties of every kind:—"This meeting regards the present as the proper occasion for reiterating its adherence to the opinion so often declared by this chamber, that the prosperity, peace, and happiness of this and other nations can be alone promoted by the adoption of those just principles of trade which shall secure to all the right of a free interchange of their respective productions; and this meeting on behalf of the great community whose interests it represents, feels especially called upon to declare its disapprobation of all those restrictive laws which, whether intended for the protection of the manufacturing or agricultural classes, must, in so far as they are operative, be injurious to the rest of the nation, unjust to the world at large, and in direct hostility to the beneficent designs of Providence." And in January 1839, deputations of merchants and manufacturers assembled in London, from Manchester, Liverpool, Leeds, Birmingham, Sheffield, Derby, Nottingham, Wolverhampton, Glasgow, Paisley, and other great towns, passed a resolution to the same effect. To these testimonies in favour of the principle of free trade has now to be added that of the Select Committee of the House of Commons on Import Duties, already alluded to, who "report their strong conviction of the necessity of an immediate change in the import duties of the kingdom," and "recommend that, as speedily as possible, the whole system of differential duties and restrictions should be reconsidered, and a change effected in such a manner that existing interests may suffer as little as possible in the transition to a more equitable state of things." The deep and general sensation which has been produced by their report throughout the country affords just grounds to hope that many of the improvements which it suggests in our commercial code will ere long be carried into effect by the legislature.

COMMISSION, or BROKERAGE, the allowance to a factor, agent, or broker, for transacting the business of others. It is generally charged at so much per cent, the amount being regulated either by stipulation or the usage of trade. A commission *del credere* is a higher rate charged in those cases where the factor, or other agent, guarantees his dealings, or in other words, engages to be answerable, as if he himself were the proper debtor. (See *CARDRAA*.)

These allowances are calculated by the Rule of Three, or Simple Proportion; the first two being always 100, the second the rate of commission, and the third the sum upon which the commission is granted, while the fourth is the allowance to be made. The following table will facilitate such calculations for the common rates:—

COMMISSION OR BROKERAGE TABLE.

Paid.	1 per cent.	2 per cent.	3 per cent.	4 per cent.	5 per cent.	6 per cent.	7 per cent.	8 per cent.	9 per cent.	10 per cent.
1	1	2	3	4	5	6	7	8	9	10
10	10	20	30	40	50	60	70	80	90	100
20	20	40	60	80	100	120	140	160	180	200
30	30	60	90	120	150	180	210	240	270	300
40	40	80	120	160	200	240	280	320	360	400
50	50	100	150	200	250	300	350	400	450	500
60	60	120	180	240	300	360	420	480	540	600
70	70	140	210	280	350	420	490	560	630	700
80	80	160	240	320	400	480	560	640	720	800
90	90	180	270	360	450	540	630	720	810	900
100	100	200	300	400	500	600	700	800	900	1000
1100	110	220	330	440	550	660	770	880	990	1100
1200	120	240	360	480	600	720	840	960	1080	1200
1300	130	260	390	520	650	780	910	1040	1170	1300
1400	140	280	420	560	700	840	980	1120	1260	1400
1500	150	300	450	600	750	900	1050	1200	1350	1500
1600	160	320	480	640	800	960	1120	1280	1440	1600
1700	170	340	510	680	850	1020	1180	1340	1500	1700
1800	180	360	540	720	900	1080	1240	1400	1560	1800
1900	190	380	570	760	950	1140	1300	1460	1620	1900
2000	200	400	600	800	1000	1200	1360	1520	1680	2000
2100	210	420	630	840	1050	1260	1420	1580	1740	2100
2200	220	440	660	880	1100	1320	1480	1640	1800	2200
2300	230	460	690	920	1150	1380	1540	1700	1860	2300
2400	240	480	720	960	1200	1440	1600	1760	1920	2400
2500	250	500	750	1000	1250	1500	1660	1820	1980	2500
2600	260	520	780	1040	1300	1560	1720	1880	2040	2600
2700	270	540	810	1080	1350	1620	1780	1940	2100	2700
2800	280	560	840	1120	1400	1680	1840	2000	2160	2800
2900	290	580	870	1160	1450	1740	1900	2060	2220	2900
3000	300	600	900	1200	1500	1800	1960	2120	2280	3000
3100	310	620	930	1240	1550	1860	2020	2180	2340	3100
3200	320	640	960	1280	1600	1920	2080	2240	2400	3200
3300	330	660	990	1320	1650	1980	2140	2300	2460	3300
3400	340	680	1020	1360	1700	2040	2200	2360	2520	3400
3500	350	700	1050	1400	1750	2100	2260	2420	2580	3500
3600	360	720	1080	1440	1800	2160	2320	2480	2640	3600
3700	370	740	1110	1480	1850	2220	2380	2540	2700	3700
3800	380	760	1140	1520	1900	2280	2440	2600	2760	3800
3900	390	780	1170	1560	1950	2340	2500	2660	2820	3900
4000	400	800	1200	1600	2000	2400	2560	2720	2880	4000
4100	410	820	1230	1640	2050	2460	2620	2780	2940	4100
4200	420	840	1260	1680	2100	2520	2680	2840	3000	4200
4300	430	860	1290	1720	2150	2580	2740	2900	3060	4300
4400	440	880	1320	1760	2200	2640	2800	2960	3120	4400
4500	450	900	1350	1800	2250	2700	2860	3020	3180	4500
4600	460	920	1380	1840	2300	2760	2920	3080	3240	4600
4700	470	940	1410	1880	2350	2820	2980	3140	3300	4700
4800	480	960	1440	1920	2400	2880	3040	3200	3360	4800
4900	490	980	1470	1960	2450	2940	3100	3260	3420	4900
5000	500	1000	1500	2000	2500	3000	3160	3320	3480	5000

COMMISSION OF BANKRUPTCY. Before the passing of the Bankruptcy Court Act, 1 & 2 Wm. IV. c. 46, bankruptcies were prosecuted under commission

by the Lord Chancellor to certain commissioners. A different arrangement was adopted by that act, and the decree authorizing the prosecution of a bankruptcy is called a fiat. [COMMISSIONERS.] The expression "commission of bankruptcy" came into use for expressing the whole process of bankruptcy, and is still sometimes employed in that sense. [BANKRUPTCY.]

COMMISSIONERS in the Law of Bankruptcy.—IN ENGLAND the commissioners are officers who hold certain powers of administration and superintendence in matters of bankruptcy. Previous to the act 1 & 2 Wm. IV. c. 56, a special commission was issued under the great seal in every particular case; but the practice has been altered by that act. The commissioners in town bankruptcies are the six commissioners of the Court of Bankruptcy. [BANKRUPTCY, COURT OF.] Those in the country are permanent officers, chosen by the judges of the several circuits, from among the barristers, attorneys, and solicitors, in the respective counties of the circuits, subject to the approbation of the Chancellor. In town bankruptcies, a single commissioner acts. The commissioners of the Court of Bankruptcy take the oath of office on their appointment; the country commissioners take a new oath on the opening of each fiat. In a town bankruptcy, the fiat authorizes the petitioning creditor to prosecute in the Court of Bankruptcy; in country bankruptcies, before commissioners named. It has to be observed, that in bankruptcies prosecuted in the Court of Bankruptcy, one commissioner has the same authority which was formerly conferred by a commission, and is now conferred on country commissioners by a fiat. Wherever the word "commissioners" is used in the following statements, it must be understood to refer to one commissioner in town bankruptcies, unless otherwise specified.

The commissioners receive proof of the petitioning creditor's debt, who must attend before them in person, unless under very peculiar circumstances. They are empowered to summon before them "any person whom they shall believe capable of giving any information concerning the trading of, or any act or acts of bankruptcy" committed by, the person petitioned against, and they may command production of all documents tending to the same purpose. The remedies and means of enforcement are the same as those below stated, with regard to the other examinations (6 Geo. IV. c. 16, § 24). Being satisfied of the debt, trading, and act of bankruptcy, they adjudge the party bankrupt (§ 24), subject to review. After adjudication, the commissioners appoint the meetings for the bankrupt to surrender and conform (§ 25), and at these, and every dividend meeting, creditors may prove their debts before the commissioners. [PROOF.] The commissioners are empowered, after adjudication, to summon before them persons suspected of having any part of the bankrupt estate in their possession, or of being indebted to the bankrupt, or any individuals who can give information as to his person, trade, or dealings, and they may require such individuals to produce books, papers, and vouchers. They can enforce attendance by warrants (§ 33). The examination may be on oath, and either written or verbal, and parties may be required to sign written answers. On refusal to answer lawful questions, to produce vouchers, or to sign answers to questions, the commissioners may commit the party without bail, until satisfactory answers are given, and the other directions of the act are complied with (§ 34). The commissioners are empowered to allow charges to witnesses, who must, as in service of a subpoena, have their expenses tendered (§ 35). They have similar authority to examine the bankrupt, and the same means of enforcing attendance, and "it shall be lawful for them to examine such bankrupt upon oath, either by word of mouth, or on interrogatories in writing, touching all matters relating either to his trade, dealings, or estate, or which may tend to disclose any secret grant, conveyance, or concealment of his lands, tenements, goods, money, or debts, and to reduce his answers into writing, which examination, so reduced into writing, the said bankrupt shall sign and subscribe." And the commissioners are empowered to imprison him to remain without bail "until he shall submit himself to the said commissioners to be sworn, and full answers make to their satisfaction to such questions as shall be put to him, and sign and subscribe such examination" (§ 36). The commissioners may examine the bankrupt's wife, with like means of enforcement, "for the finding out and discovery of the estate, goods, and chattels of such bankrupt, concealed, kept, or disposed of by such wife, in her own person, or by her own act, or by any other person" (§ 37). Quakers may make solemn affirmation on such examinations, and falsehood, either under oath or solemn affirmation, incurs the punishment of perjury (§ 99). § 39 of the act regulates the course to be adopted by the courts of law when applied to by habeas corpus or otherwise to interfere with commitments under the act. § 40 provides for the protection of the

commissioners in cases of actions of damages. No single commissioner of the Court of Bankruptcy can commit an individual, except to a messenger of the court, to be brought before a subdivision court, or court of review, within three days (1 & 2 Wm. IV. c. 56, § 7). In the examinations a witness is not bound to answer a question which may criminate him, or expose him to penalties, but it will not serve as a ground of protection that the answer may expose him to a civil claim. "And a bankrupt may not only be compelled to disclose the disposition of his property, and the mode of it, although such instances may tend to prove an act of bankruptcy, but he may be examined as to whether a deed was voluntary; and he cannot refuse to discover the particulars relating to his estate, although such information may tend to show that he has committed a criminal act; but if the question put to him be, whether or not he has done an act clearly criminal, he may refuse to answer it" (*Henley's B. L.* 91). Any commissioner of the Court of Bankruptcy may adjourn an examination, or a proof of debt, to a subdivision court, or a court of review; and if a commissioner decide any point of law or equity, or as to the refusal or admission of evidence in the case of a disputed debt, the decision is subject to review (1 & 2 Wm. IV. c. 56, §§ 30, 31). Commissioners of the Court of Bankruptcy are judges of record, and have the corresponding privileges and protections (*Ib.* § 1). The country commissioners are protected in the execution of their duty by 6 Geo. IV. c. 16, § 41-44. (*Statutes*, as quoted. *Henley's B. L.* 79-97.)

IN IRELAND there was, by the original bankruptcy act, 6 Wm. IV. c. 14, one commissioner, but a second was added by 7 Wm. IV. and 1 Vict. c. 48. In each bankruptcy, a separate commission is issued under the great seal to one of the commissioners, but they only require each to take one oath of office (§ 4). The commissioner summons the bankrupt, subjects him to examination, inquires into the trading and bankruptcy by witnesses and documents, in the same manner as the commissioners in England, and he has similar remedies for enforcing attendance. The Lord Chancellor may, on affidavit or otherwise, issue an extraordinary commission, for proof of debts, examination of witnesses, and other matters, while the person so appointed possesses the same powers to compel attendance of witnesses, and examine them, and to enforce production of documents, as the official commissioner (§ 57). [BANKRUPTCY.]

IN SCOTLAND there are commissioners appointed in each sequestration or bankruptcy, whose situation and duties, however, are very different from those above described. They form a committee of three creditors, who are the assessors or council of the trustee, and whose consent is necessary to certain transactions connected with sequestrations. They are chosen at the meeting for electing the trustee, and in the same manner, by creditors duly qualified. [TRUSTEE.] They must be chosen from among the creditors or mandatories, and their election is declared by the Sheriff. Where a commissioner has become disqualified, or has otherwise ceased to act, the trustee must call a meeting to elect a new one. The commissioners must concur with the trustee in submissions and other transactions. They meet at stated intervals to examine into the proceedings of the trustee, audit his books, and declare dividends. They fix the trustee's remuneration, and have the privilege of assembling when they think fit, to ascertain the situation of the estate. Two are a quorum. They are not entitled to purchase property sold under the bankruptcy. [SEQUESTRATION. TRUSTEE.] (2 & 3 Vict. c. 41. *Burton's Manual of the Law of Scotland.*)

COMPANY, an association of persons for the prosecution of a common undertaking. In carrying on those costly enterprises in which the capital of a commercial country is employed, the resources and the mind of one person are often inadequate. They require the combined capital and industry of many, with the unity of purpose and of person which belongs to an individual. Hence the origin of companies, of which the following kinds may be distinguished:—

Private Companies, or voluntary associations of two or more persons for the acquisition of profit, with a contribution for that end, of stipulated shares of property and industry; accompanied by an unlimited mandate to each partner to bind the company in the line of its employment, and a guarantee to third parties of all the engagements undertaken in the social name. Companies of this kind may be subdivided into PARTNERSHIPS and JOINT-ADVENTURES, under which heads, respectively, these contracts are fully described.

Joint-Stock Companies differ from the preceding in respect,—1st, That the credit is placed on the joint-stock of the company, as indicated by a descriptive name, instead of being personal, as indicated by a firm; 2d, That the management is delegated by the partners to a body of directors; and, 3d, That the shares are transferable.

Public or Chartered Companies are of different kinds. A royal charter enables a joint-stock company to enjoy the privileges of a corporation, and trade under a limited responsibility; the shares of such a company are transferable; the company itself undissolved by the death or bankruptcy of partners; and the management and title to pursue are vested in the officers appointed according to the charter. But to give the privilege of monopoly to a company, there must be an Act of Parliament, as in the cases of the East India Company and Bank of England.

Regulated Companies are chartered commercial associations which do not trade upon a joint-stock, but are obliged to admit any person properly qualified, upon paying a certain fine, and agreeing to submit to the regulations of the company, each member trading upon his own stock, and at his own risk. After the revival of commerce in the 15th, 16th, and 17th centuries, it was the practice in most modern states to assign such branches of trade as were reckoned peculiarly hazardous to the exclusive management of such companies, who were authorized to levy duties, and to provide for their common defence and security, as few governments had then ships and troops to spare for the defence of their subjects in remote regions. But the necessity for these associations, if it ever existed, ceased long ago; and of the regulated companies which were formerly established in Britain, as the Hamburg Company, the Russia Company, the Turkey Company, the African Company, and others (*Wealth of Nations*, b. 5, c. 1), a few only exist in name; all British subjects being now at liberty to trade with friendly countries, on their conforming to the regulations laid down by such countries, and to our customs laws.

Patent Companies are associations instituted under the act 7 Wm. IV. & 1 Vict. c. 73, which provides for the limitation and regulation of the partners by letters patent; in this way avoiding those cumbrous peculiarities of a corporation which are inconvenient to a mere trading company, and rendering the expense of an Act of Parliament unnecessary.

Sociétés en Commandite, though not sanctioned by the British laws, are common in France and elsewhere. They consist of a number of individuals, of whom one or more undertake the management, and are held indefinitely responsible for all engagements, as in the case of ordinary partnerships; and the others are mere shareholders, responsible only to the amount of their contributions, either paid up or contracted to be paid into the joint-stock of the association. The first, called in France *commandites*, may be designated managing partners; and the second, called *commanditaires*, non-responsible partners, or simply shareholders. Thus the *commandite* association is intermediate in its character between an ordinary partnership and a privileged trading company. The managing partners are liable in their whole fortunes; the others only in a limited sum.

The Constitution of Companies, in regard to the mutual rights of the partners, and their liabilities to the public, will be treated in detail under the heads PARTNERSHIP and JOINT-STOCK COMPANY. But an opportunity will be here taken to describe those proceedings which are usual or necessary in the institution of a company to undertake the formation of a railway, canal, or other work requiring a private Act of Parliament. In the prosecution of such undertakings, the first step usually taken is for the projectors to draw up the plan of the association, with a statement of the advantages to be derived from it, and the proposed method of carrying it into effect. This is submitted to a meeting of those interested. If the plan be approved, a subscription is opened to defray immediate expenses, and means are taken to give publicity to the plan so adopted, in order to procure shareholders. An estimate has generally been formed of the amount which is considered sufficient for the completion of the object; and the shares are agreed to be paid in such proportions and at such times as shall be afterwards fixed by the bill. In the view of introducing a private bill into Parliament, surveys are then made, and plans prepared, together with a list containing the names of every person whose interests are immediately affected, or whose estate, or any part thereof, is required for the purposes of the undertaking. Duplicates of this list, having three blank columns, headed *assenting*, *dissenting*, and *neutral*, are forwarded to every such person, to be signed by him in whichever column he pleases, and numerous other regulations are established by the "Standing Orders" of the two Houses of Parliament, for the purpose of securing to private bills, in their progress, the observation of all whose interests they may affect; for an account of which we must refer to these orders themselves.

The preliminaries prescribed by the standing orders of the House of Commons having been fulfilled within a certain defined time before the assembling of Parliament, and subscribers obtained to the amount of at least three-fourths of the estimated expense, one-tenth of which subscribed amount is also required by the same orders to be paid up and deposited in the Bank of England, in a chartered bank in Scotland, or invested in government securities,—the draft of the bill is prepared, and a petition is addressed to the House, praying that it may be received. This petition must be presented on or before a certain day in each session, which is always fixed at the commencement of the session, and is usually within a fortnight or three weeks thereafter. If presented in time, with the necessary documents and plans, it is referred to a select committee, taken by ballot from certain lists into which the whole House is divided, for particular divisions of the country. This committee having ascertained that the standing orders have all been complied with, report the same to the House, and the bill, having been printed, and copies distributed among the members, is received and read a first time. After the

lapse of a certain number of days, it is moved that the bill be read a second time, when, if any objection is made, it is then stated, and the bill is either rejected or referred to a select committee, who consider it clause by clause, and are empowered to examine witnesses, and to hear counsel both in support and opposition. The committee, in almost every case, introduce a maximum of the toll, or duty, or rent (according to the nature of the measure), to be levied, and in many cases declare a maximum of interest to be divided on the capital, and order the surplus to be invested in the public funds till the amount is sufficient to repay the advances by the shareholders,—the improvement to be then thrown open for the free enjoyment of the public. In many cases also provision is made to secure the completion of the work when once begun. The committee having completed their labours, announce their decision in a report; after which the House proceeds to the third reading of the bill, when it may be again discussed, though the report of the committee is in most cases agreed to without any farther opposition. If the bill is passed, it is carried to the House of Lords, where it goes through nearly the same forms; and if it be finally approved of by the Upper House, and receive the royal sanction, it becomes an Act of Parliament. It should also be stated, that early in the session the House fixes periods within which the different stages of private bills are required to be forwarded.

The expenses of carrying the generality of such bills through Parliament are very considerable. A much higher amount of fees is paid in the case of a private bill than in that of a public bill, to the clerks and other officers of the two Houses; besides which, the expenses of agency, of bringing up witnesses, and the other charges attending the making application to Parliament for a private bill, at present often amount to many times as much as the fees. The following shows the expenses of constituting several of the English railway companies:—

London and Birmingham railway (112½ miles); payments for act of incorporation, £72,882.

North Midland railway (73 miles), £40,588.

Great Western railway (114 miles), £38,710.

Southampton railway (75 miles), expended in raising capital, procuring act, &c., £38,040.

Liverpool and Manchester railway; parliamentary and law expenditure, £22,465.

COMPASS (the Mariner's), an instrument employed in directing the course of vessels at sea. It consists of a circular card, having a magnetised needle attached to the back of it, so as to form one of its diameters; this diameter being supported on a point, and exactly balanced on its centre, turns freely round with the card, which by a particular contrivance is so suspended within a cylindrical box that it remains perfectly horizontal, notwithstanding the irregular motions to which a ship is liable at sea: it is the property of the needle, when thus balanced, to point nearly to the North Pole; whence, by simply looking at the position of the needle, the mariner can see the direction in which the vessel is sailing, and regulate his steering accordingly.

The course indicated by the needle, however, is only the *magnetic bearing*, which is seldom the true direction; for the magnet rarely points exactly north, being subject to two errors from different causes, called the *variation* and the *deviation*. The former is the result of a slow progressive alteration in the position of the magnetic pole, which, within certain limits, moves from east to west, and back again from west to east. When it was first noticed, about the middle of the 16th century, the needle in London pointed some degrees to the east of the true north; this variation gradually became less, till in 1660 it coincided with the North Pole of the earth; it then gradually varied to the west, till in 1828 the variation amounted to about 25°; since which it has decreased, being at present about 24°. It also changes 10 or 15 minutes at different times of the day. The variation of the compass, however, is very different in different parts of the globe, and must therefore be determined at sea by comparing the true bearing of a celestial object with its bearing by compass, which is done by a finer instrument called an *azimuth compass*. The cause of the variation of the compass has hitherto eluded the researches of philosophers. Captain Parry discovered that when he had passed to the north of a certain spot westward of Hudson's Strait, the needle, which had been previously varying to an extreme degree, absolutely went half round the compass, and this continued to be the case until he had sailed considerably farther north. Whether this peculiar attraction had any reference to the real magnetic pole, further observations will perhaps determine.—The *deviation* of the compass is a local error, occasioned by the attraction of iron on board ship: it was first observed by Mr Wales, the astronomer of Captain Cook, and has been the cause of numerous shipwrecks: an ingenious method of discovering its amount, however, has been lately invented by Professor Barlow. The *dip* of the needle is a deviation from its horizontal line; it is different in different places, and, like the variation, undergoes slow changes: its diurnal change is not perceptible.

The inventor of the mariner's compass is not known. It was employed in Europe in navigation, about the middle of the 13th century, but the exact date of its introduction is matter of doubt. The Chinese, however, are said to have been acquainted with it much earlier. The attractive power of the loadstone was known to the ancient Egyptians, but was not by them applied to any practical purpose. [COMMERCE.]

COMPOSITION-CONTRACT, an agreement between a bankrupt trader and his creditors, by which, on its being ratified according to the terms of the statutes, the debtor is relieved from the farther operation of the bankrupt laws.

IN ENGLAND, by the bankrupt statute 6 Geo. IV. c. 16, this practice was introduced from the sequestration law of Scotland. By § 133, any meeting after the bankrupt has passed his last examination (of which and its purport 21 days' notice shall have been given in the Gazette), if he or his friends make an offer of composition, or security for composition, agreed to by nine-tenths in number and value of the creditors present, another meeting is to be appointed, and if at that meeting nine-tenths in number and value agree, the bankruptcy is to be superseded. By § 134, a creditor whose debt is less than £20, is not reckoned in number, but his debt must be computed in value. Any creditor to the amount of £50 residing out of England, must have notice of the meeting so long before as to have time to vote, and such creditor may vote by letter of attorney, as in the case of assignees. A creditor agreeing to accept any gratuity or higher composition for assenting, forfeits the debt and the gratuity; and the bankrupt may be compelled to make oath that no such transaction has taken place, and that he has used no undue means to obtain the assent of his creditors. The composition-contract having been in use in Scotland since 1793, the practice in that part of the island will in a great measure regulate that of England, except where a distinction is created by statute.

IN SCOTLAND, by the late sequestration act, 2 & 3 Vict. c. 41, an offer of composition may be made at the meeting appointed for electing a trustee. [TRUSTEE.] If a majority in number and nine-tenths in value, at the meeting, agree to entertain the offer, the trustee must advertise in the Edinburgh Gazette that an offer has been made and entertained, and that it will be decided upon at a meeting to be held after the bankrupt's examination, stating the day, hour, and place of the meeting. He must also send a circular by post to each creditor claiming, or mentioned in the bankrupt's state, containing a notice of the resolution and meeting, with a specification of the offer and security, and an abstract of the state of the affairs and valuation of the estate, "so far as the same can be done, to enable the creditors to judge of the said offer and security" (§ 113). If at the meeting, a majority in number and nine-tenths in value accept, a bond of caution [CAUTIONARY OBLIGATION] by the bankrupt and his cautioner may be lodged with the trustee. The trustee has then to send a report of the resolution of the meeting and the bond of cautionary to the Bill-Chamber Clerk of the Court of Session, or the Sheriff-Clerk of the district. The latter alternative is made, that the trustee may have the decision of the Lord Ordinary, or of the Sheriff, according to his choice. If the judge find that the requisites are complied with, he must judicially approve of the composition, after hearing all objections by opposing creditors, "and if he shall refuse to sustain the offer, or reject the vote of any creditor, he shall specify the grounds of refusal or rejection" (§ 114). The second occasion for an offer is at the meeting after the examination, or at any subsequent meeting called for the purpose by the trustee, with consent of the commissioners [COMMISSIONERS], when if a majority in number and four-fifths in value resolve to entertain the offer, the trustee must send notice to the creditors, as above, for a meeting within 21 days. At the meeting, a majority in number and four-fifths in value may accept the offer. The proceedings must be judicially certified as above (§ 115). If an offer having been made has been rejected, or has otherwise become ineffectual, no second offer can be entertained, unless nine-tenths in number and value assent in writing, and the offer, stating the amount of composition and the terms of payment, be subscribed by the cautioner. Such an offer not only requires to be accepted by a majority in number and nine-tenths in value of the creditors called to a meeting by the trustee, but to be assented to by nine-tenths in value of all the creditors who have produced affidavits (§ 121). Before a composition is approved of, the commissioners have to audit the trustee's accounts, and ascertain the balance, subject to review by the Lord Ordinary or Sheriff (§ 117). The bankrupt and his cautioner in the composition are precluded from objecting to any debt given up by the bankrupt in his "state," or admitted in his offer of composition, and likewise to any security held by a creditor, unless an objection have been made in the offer of composition, written notice having been given to the creditor (§ 119). A creditor who has not produced his claim before the date of the judicial approval of the composition, has no claim against the cautioner after two years from its date (§ 120). On a composition being approved of, and the bankrupt taking the declaration or oath prescribed by the statute, he is discharged. (§ 116.)

IN IRELAND, by 6 & 7 Wm. IV. c. 14, §§ 151 & 152, the composition-contract was established in the same terms as by §§ 133 & 134 of 6 Geo. IV. c. 16 in England, the notice of meeting being given in the Dublin Gazette.

CONESSI, the bark of the oval-leaved rosebay (*Verum antidysentericum*). It is obtained chiefly at Tellicherry, on the Malabar coast, whence it is sometimes called Tellicherry bark. It has lately been introduced into the British materia medica. (*Ainslie's Mat. Indica.*)

CONEY, or RABBIT (Fr. *Lapin*. Ger. *Koniglein*. It. *Coniglio*. Sp. *Conejo*), a well-known rodentia little animal (*Lepus Cuniculus*, Linn.) remarkable for its fecundity,—beginning to breed at the age of six months, and producing several litters in a year, generally from five to seven or eight at a time. Its fur is in considerable demand, particularly for the hat trade; at one time the silver-haired varieties, or silver sprigs, were much valued for ornamental linings to cloaks, and other pieces of dress. Coney furs are a common article of import.

CONSIGNMENT is an expression employed to designate any transaction by which an individual in one place transmits or consigns goods to an individual in another place, to be at his disposal under conditions expressed or implied. The person who transmits the goods is called the consigner,—he who receives them the consignee. Consigner and consignee are used by merchants to express generally the shipper of merchandise, and the person to whom they are addressed, by bill of lading or otherwise. The most ordinary description of consignment is that to a factor, who has to traffic with the goods for the use of his principal, and who may deal with third parties not warned of limitations to his power, as if he were the principal. [*Factor, and substance of the Factor's Act under that head.*] Cargoes are sometimes consigned from debtors to creditors in satisfaction of debt, and sometimes as a fund of credit for advances, the consigner being entitled to draw on the consignee to a certain amount, or the latter advancing cash to the former. On failure of the consigner, the consignee has a lien on the goods in his hand for his advances. (*Paley on Principal and Agent.*) [FACTOR. LIEN.]

CONSOLIDATED FUND. [BUDGET. REVENUE AND EXPENDITURE.]

CONSOLS, a familiar term used to denote the portion of the national debt of the United Kingdom forming the 3 per cent. consolidated annuities.

CONSUL, an officer appointed by a government to reside in some foreign country for the purpose of facilitating and protecting the commerce of the subjects of such government. Consuls are not in general reckoned among diplomatic ministers; but in some particular cases (such as that of the consuls-general sent to some of the semi-barbarous states of Africa), having diplomatic duties to perform, they are accredited and treated as ministers. According to the general instructions of the British government, a consul must study “to become conversant with the laws and general principles which relate to the trade of Great Britain with foreign parts; to make himself acquainted with the language, and with the municipal laws of the country wherein he resides, and especially with such laws as have any connexion with the trade between the two countries.” His principal duties are “to protect and promote the lawful trade and trading interests of Great Britain by every fair and proper means;” “to caution all British subjects against carrying on an illicit commerce to the detriment of the revenue, and in violation of the laws and regulations of England, or of the country in which he resides;” “to give his best advice and assistance, whenever called upon, to his Majesty's trading subjects, quieting their differences, promoting peace, harmony, and good-will amongst them, and conciliating as much as possible the subjects of the two countries upon all points of difference which may fall under his cognizance;” and to uphold the rightful interests and privileges of British subjects both in person and property, placing, however, cases where redress cannot be obtained from the local authorities in the hands of the British minister. The consul is also required to send annually to the Secretary of State for Foreign Affairs a return of the trade at the ports within his consulate; and to transmit quarterly a weekly account of the prices of agricultural produce, with the course of exchange, and any remarks connected with these subjects which he may consider necessary. He is further required to acquaint his own government with the appearance of any contagious disease at the place of his residence; to afford relief to any distressed British subjects thrown upon the coast, or reaching by chance any place within his district; and to furnish intelligence, obtain supplies, and generally assist any king's ships coming within his consulate.

The consuls appointed by our government are generally British subjects; but this is not an invariable rule. Previous to the year 1814, the greater part of the English consuls abroad, who held commissions under the crown, were merchants at

the respective places of their consular residence. Many of those consuls had no salary from government ; their emoluments consisted of fees, which they levied upon the tonnage of British ships, and upon the value of their cargoes. This mode of remunerating these officers having created dissatisfaction among the commercial classes, a new system was introduced in the year 1826, and an act of Parliament was passed to abolish all consular fees on tonnage and cargoes, and to enable the crown to give remunerating salaries to consuls. According to the system founded upon the act of 1826, it was determined "that British consuls should not be in any way concerned, directly or indirectly, in commercial pursuits." This system was acted upon with some few exceptions until the year 1832, when a very considerable reduction was made in the salaries assigned to them, and "permission was given to engage in commercial pursuits," as a set-off against the reduction of salary. Thus, the principle established in 1826 was reversed, and restriction "to engage in mercantile pursuits" made the exception instead of the rule.

TABLE of Fees payable to Consuls-general and Consuls by the act 6 Geo. IV. c. 87.

TABLE (A.)		
Certificate of due landing of goods exported from the United Kingdom.....	2 dollars	Registrations.....1 dollar
Signature of ship's manifest.....	2 ..	Visa of passport..... $\frac{1}{2}$..
Certificate of origin, when required....	2 ..	Valuation of goods.....1 per ct.
Bill of health, when required.....	2 ..	Attending sales $\frac{1}{2}$ per cent. where there has been a charge for valuing, otherwise 1 per cent.
Signature of muster-roll, when required..	2 ..	Attendance, out of consular office, at a shipwreck, five dollars per diem for his personal expenses, over and above his travelling expenses.
Attestation of a signature, when required.....	1 ..	Do. on opening a will.....5 dollars
Administering an oath, when required.. $\frac{1}{2}$..		Management of property of British subjects dying intestate.....2 $\frac{1}{2}$ per ct.
Seal of office, and signature of any other document not specified herein, when required.....	1 ..	
TABLE (B.)		
Bottomry or arbitration bond.....	2 ..	The dollars mentioned in the preceding tables are in all cases to be paid by the delivery of dollars, each of which is to be of the value of 4s. 6d. sterling, and no more, according to the rate of exchange prevailing at the place where such payment is made.
Noting a protest.....	1 ..	
Order of survey.....	2 ..	
Extending a protest or survey.....	1 ..	

CONTINENTAL SYSTEM. [COMMERCE.]

CONTO, a Portuguese word, denoting a million. A conto of reis is 1000 milreis; commonly expressed 1000 \$000.

CONTRABAND, from the Italian *Contrabando*, contrary to proclamation, is applied in one sense to the goods which are prohibited to be exported or imported, on the ground of theories regarding national policy, or protection to home produce. These are embodied in the customs duties act, 3 & 4 Wm. IV. c. 52, an abridgment of which will be found under the title Customs. Contraband of war is applied by belligerent powers to the furnishing of arms, provisions, or other assistance to powers with which they are at war, by neutral states, or their own subjects. Like most other questions in the law of nations, it is exceedingly difficult to decide what goods may or may not give assistance in the furtherance of hostilities, and consequently what are or are not contraband. "Not only arms, powder, ball, and other ammunition, but also horses and furniture, pitch, tar, sails, hemp, and cordage, masts, yards, and all other necessities for the building or equipment of ships, are generally considered as contraband" (*Marshall on Insurance*, 73). The penalties where neutrals convey contraband, are somewhat arbitrary, depending often on the power of the nation that enforces them. Formerly the vessel and cargo were forfeited, but in later times the penalty has generally been mitigated. It is treasonable in a subject of Britain to supply contraband to a nation with which this country is at war, and all contracts, including insurances, made here, in relation to the conveyance of contraband, whether by British subjects or neutrals, are void. (*Ib.* 72-79.)

CONTRACT, OR **AGREEMENT**, may be defined the legally expressed consent of two or more persons to give and receive some specified benefit.

IN ENGLAND, a person *non compos* cannot enter into an agreement. By the original principles of the law, infants, or minors, that is, persons under twenty-one years of age, cannot contract. In practice, however, in general, their contracts for their benefit are supported, while they are entitled to recede from those to their prejudice. A minor may bind himself for necessities, such as food, clothing, medicine, and education ; and in judging of what are necessities, the comparative age and position of the party will be considered. Thus, where a minor was a captain in the army, he was held liable to pay for his servant's livery,—his situation being

held as requiring such an attendant (*Hands v. Slaney*, 8 T. R. 578). If one lends money to a minor, it would seem that the borrower will not be bound though he lay it out on necessaries, as the necessity is judged of from the nature of the contract, not from what the minor may do in consequence of it. By 9 Geo. IV. c. 14, § 5, a confirmation by one of full age, of a contract incurred in minority, cannot be validly made except in writing. A wife during intermarriage is incapable, without her husband's consent, of entering on an agreement, in the general case; but with respect to her separate property, she is entitled to act as if she were a single woman. (2 *Vesey, senior*, 190.)

All agreements to do an act on one side, should have a consideration on the other; but a deed duly executed, in the most solemn manner, under seal, is binding without a consideration; and negotiable instruments, such as bills and notes, bind without consideration, where the interest of third parties is involved. [BILL.] In the general case courts of law will not interfere either to enforce voluntary agreements, not having any of these qualifications, unless creditors or other third parties have an interest, or to annul them, unless in cases of fraud. The party injured by breach of agreement, may have recourse at common law, or in equity, according to the circumstances. Where specific performance is demanded, the latter is the proper tribunal: Where damages for non-performance will compensate the claimant, a court of law and a jury should be resorted to. "Therefore, in general, they (Courts of Equity) will not allow a bill for a specific performance of contracts of stock, corn, hops, or other articles of merchandise, but will leave the plaintiff to his remedy at law." (*Bacon's Ab.; Agreements, B. 1, note.*)

By the statute of Frauds, 29 Ch. II. c. 3, among many provisions which refer chiefly to agreements as to real property, it is by § 4 enacted, "That no action shall be brought whereby to charge any executor or administrator, upon any special promise, to answer damages out of his own estate, or whereby to charge the defendant, upon any special promise, to answer for the debt, default, or miscarriages of another person; or to charge any person upon any agreement made upon consideration of marriage, or upon any contract or sale of lands, tenements, or hereditaments, or any interest in or concerning them; or upon any agreement that is not to be performed within the space of one year from the making thereof; unless the agreement upon which such action shall be brought, or some memorandum or note thereof, shall be in writing, signed by the party to be charged therewith, or some other person thereunto by him lawfully authorized." By a still more important enactment (§ 17), "no contract for the sale of any goods, wares, and merchandise for the price of ten pounds sterling or upwards, shall be allowed to be good, except the buyer shall accept of part of the goods so sold, and actually receive the same, or give something in earnest to bind the bargain, or in part of payment; or that some note or memorandum in writing of the said bargain be made and signed by the parties to be charged, or their agents thereunto lawfully authorized." By 9 Geo. IV. c. 14, § 7, this provision is declared to apply, though the goods may not be made, or fit for delivery at the time of the agreement. With regard to the delivery, where goods are ponderous, it may be symbolical, as by delivery of the key of the warehouse. Acceptance of samples is only held acceptance of a part, when it really is part of the bulk. The consideration need not be expressed in the memorandum. This document may consist of two separate writings. Where the seller only signed, and the name of the buyer did not appear, it was held insufficient (*Champion v. Plummer*, 1. Bos. & Pul. 252). Where one expresses his consent by writing his name, it is of no consequence whether it be by subscription, or in the body of the memorandum. An agreement in part performed, is not affected by the statute. Such acts must be done distinctly with the view of fulfilling the agreement. (*Bacon's Ab.; voce Agreements.*)

IN IRELAND, the equivalent to the English statute of frauds is 7 Wm. III. c. 12, which is amended as above by 9 Geo. IV. c. 14.

CONVOY, in the law of shipping, is applied to a naval force appointed by the government, for the protection of vessels plying between certain ports in time of war. An obligation to sail with convoy has occasionally been created and enforced by act of Parliament (see 38 Geo. III. c. 76, & 43 Geo. III. c. 57), while at other times it has been left to the private arrangement of the parties interested, in their capacity of underwriters, &c. It was decided in 1783, that an obligation to sail with convoy is not fulfilled by incidentally accompanying and being under the protection of a ship of war, and that only vessels commissioned for that express purpose by the government constitute convoy (*Park on Insurance*, 449). The admiral commanding-in-chief on a foreign station, is, however, the representative

of the government to the effect of appointing such protection. It frequently happens that the convoy does not sail from the same port as the vessel ; when this is the case, the obligation on the master is to proceed, in the usual manner, to the place of rendezvous. Convoys cannot generally be appointed for every individual voyage during its whole continuance, and in such cases vessels may have to conclude their voyages unprotected. Each voyage is, however, attached to some particular convoy, which must be kept company with so far as it goes. The master of a vessel bound to join convoy must immediately apply for sailing instructions, that he may be able to obey the signals, and may know the place of rendezvous in case of separation. Unless it be owing to impediments over which the master has no control, he is not considered as having put himself under the protection of convoy, until he has obtained sailing instructions. The principal questions as to sailing with convoy arise out of cases where it is a warranty specified or implied in insurances, and on this view it will be discussed under the head WARRANTY.

COPAIBA, or **COPAIVA**, commonly called a balsam, but properly an oleo-resin or turpentine, is a drug obtained from the *Copaifera officinalis*, a native of South America, and from other species of the same tree. Two kinds are sometimes distinguished, and named from the countries in which they are produced, the Brazilian (chiefly from the province of Para), and the West Indian. The former is thin, clear, of a pale colour, pleasant aromatic smell, and of an acrid bitter taste ; while the latter is thick, golden yellow, not transparent, and of less agreeable smell, even resembling turpentine. Sp. gr. .980. It is often adulterated with castor-oil and the finer sorts of turpentine. When good, it should be completely soluble in alcohol of the strength of 90 per cent. ; but the simplest test of its purity is to heat a small quantity in a watch-glass, when, if good, a hard brittle resin remains. This drug is celebrated for its action as a stimulant to the mucous surfaces. About 320 cwts. are annually entered for home consumption.

COPAL, a peculiar kind of resin obtained from a large tree (*Rhus copallinum*), found in various tropical countries. It usually appears in the form of round, hard, shining, transparent masses, brittle, tasteless, and nearly inodorous ; and is generally of a lemon hue, though the best is nearly colourless. It is fusible and inflammable, insoluble in water, and differs from most other resins in being very sparingly soluble in alcohol. It is, however, dissolved by ether and some essential oils, though with difficulty. The resin is chiefly employed with oil of turpentine in making copal varnish, a substance which, when carefully prepared, is durable, susceptible of a brilliant polish, and so hard as to resist scratches. It is applied to tea-boards, snuff-boxes and other utensils, and also to the preservation and restoration of paintings. Copal is principally imported from Africa, though small quantities are occasionally brought from Mexico and the East Indies.

COPPER (Fr. *Cuivre*. Ger. *Kupfer*. It. *Rame*. Por. *Cobre*. Rus. *Медь*. Sp. *Cobre*. Sw. *Koppar*), a metal of a beautiful red colour, and considerable lustre. It is very malleable and ductile, and has a peculiar smell when warmed or rubbed. It is so tenacious that a wire 1-10th of an inch in diameter will support nearly 300 lbs. Sp. gr. 8.8. Fusing point 1996° Fahr. The uses of this metal are inferior only to those of iron. It is used for coin, for covering the bottoms of ships, for boilers, and a great variety of utensils ; also in the manufacture of colours, and in medicine. Its alloys are noticed under the heads of BELL-METAL, BRASS, BRONZE, GERMAN SILVER, SPECULUM METAL, and PINCHBECK.

Copper is found in the metallic state in nature, but not in great quantities. An amorphous mass is said to have been discovered in Brazil, weighing 2666 Portuguese pounds. The great source of its supply is an ore in which the metal is found combined with sulphur. In both states it is obtained in almost every mineral district in the world, in beds, or more commonly in veins in primitive and secondary mountains, accompanied by several other mineral substances. Mines of copper are largely worked in England, Chili, Cuba, Germany, Sweden, and Siberia ; those of France, Spain, Hungary, Norway, and Ireland, are of much less consequence.

The English mines were scarcely worked prior to last century ; they are chiefly situated in Cornwall, where the most common ore consists of copper, iron, and sulphur, in nearly equal proportions, and is called yellow copper ore, or copper pyrites ; veins are also worked in the counties of Devon, Anglesey (particularly in Pary's mountain near Amlwch), and Stafford. Owing to the want of fuel in Cornwall and Devon, the ores are shipped from these countries to South Wales to be smelted, principally to works situated on the navigable rivers of Swansea and Neath ; the smaller quantity of material being thus carried to the greater, while the vessels load back with coal

for the use of the various steam-engines. The quantity of metallic copper yielded by the ore is commonly about 8 or 9 per cent. The produce of metal from the workings in Cornwall in 1775 was 3596 tons ; in 1800, 5187 tons ; in 1820, 7364 tons ; and in 1838, 11,527 tons. The productive power of the mines has thus been increased more than threefold in the last 60 years. No statement can be given of the total quantity of copper raised in the United Kingdom before 1820 ; in that year it was 8127 tons ; in 1830, 13,232 tons ; and in 1840, about 16,500 tons. The annual value of this metal raised in the kingdom, estimated at from £90 to £100 per ton, may be taken at present at about £1,500,000.

The copper yielded by the British mines is more than sufficient for the consumption of the kingdom, and a considerable (but decreasing) quantity is exported ; in 1820, it amounted to 121,958 cwts. ; in 1830, to 183,154 cwts. ; and in 1839, to 153,743 cwts. This last consisted of 16,555 cwts. unwrought in bricks and pigs ; 128,977 cwts. sheets, nails, &c. ; 762 cwts. coin ; 39 cwts. wire ; and 7410 cwts. wrought copper of other sorts. These are chiefly shipped at Liverpool and London for the East Indies, China, and the United States ; considerable quantities are likewise sent to Germany, Holland, Canada, West Indies, and Brazil.

Of late years great quantities of copper ore have been brought to England, chiefly to Swansea, for the purpose of being smelted, and re-exported in the metallic state. In 1839, the amount of ore thus imported was 603,902 cwts., of which 346,048 cwts. were brought from Cuba, and 182,664 cwts. from Chili. Of the copper smelted from foreign ore, there were exported in the same year 112,830 cwts. ; of which there were taken by France 84,567 cwts. ; and the rest was sent in smaller quantities to the Netherlands and the United States.

British copper is exempted from the tax laid on TIN, and the oppressive regulations growing out of it. Copper sheathing and utensils, and old copper and pewter apparatus of British manufacture, returned from the British plantations ; also copper stripped from vessels in ports in the United Kingdom may be admitted to entry duty free under the following regulations :—1. Old copper-sheathing off British vessels in ports in British possessions, upon proof that it was taken off in such ports, and also that it is the property of the owner of the ship from which it was so stripped, to be delivered to such owner.—2. Old copper-sheathing off any ship in any port of the United Kingdom, upon the fact being certified by the landing-waiter superintending the process ; the old copper to be delivered only to the coppersmith, who may re-copper the vessel from which it was stripped, he making proof to that fact.—3. Old worn-out British copper and pewter utensils to be in all cases delivered when brought from B. P. in British ships, upon the consignee submitting proof that they had been used on a particular estate, and are consigned to him on account of the owner of that estate, and that he (the consignee) believes them to be of British manufacture. (*Min. Com. Customs, Feb. 15, 1833.*)

For regulations as to taking copper ore out of bond to be smelted, see **WAREHOUSES, PUBLIC BONDED.**

COPPER MANUFACTURES. The custom-house accounts of exports include copper and brass manufactures together ; the total quantity and declared value of these shipped in each of the years from 1828 to 1838 were as follows :—

	Cwts.	Declared Value.		Cwts.	Declared Value.
1829.....	161,241.....	£812,366	1834.....	205,960.....	£961,833
1830.....	189,592.....	867,344	1835.....	242,095.....	1,094,749
1831.....	181,951.....	803,124	1836.....	204,835.....	1,072,344
1832.....	213,482.....	916,563	1837.....	250,105.....	1,166,277
1833.....	192,974.....	884,149	1838.....	265,204.....	1,221,738

The chief shipments in 1838 were made to the following countries, namely :—France, 85,926 cwts., £371,363 ; East Indies, 65,780 cwts., £303,132 ; United States, 29,916 cwts., £140,722 ; Holland, 19,503 cwts., £86,369 ; Belgium, 10,496 cwts., £48,283 ; Germany, 7248 cwts., £36,617 ; Italy, 7609 cwts., £34,291 ; British West Indies, 6518 cwts., £36,628 ; Foreign West Indies, 4845 cwts., £23,552 ; British America, 5801 cwts., £29,672 ; Brazil, 5111 cwts., £25,595.

COPPERAS. [**VITRIOL.**]

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CORAL (Fr. *Corail*. Ger. *Korallen*. It. *Corale*. Por. & Sp. *Coral*. Rus. *Koralli*), a submarine production, composed of the cells of minute creatures of the polypus kind (*Polypiera cortificera*, Lamarck), some species of which, after being polished and worked, are prized as ornaments of female dress. It is a hard, compact, stony body, furrowed, and in the form of plants, with warty excrescences ; and is valued according to its size, solidity, and the depth and brilliancy of its colour. This is most commonly yellowish white ; but it also occurs red and black,—the last being in general the most highly esteemed ; there are, however, many varieties of each kind. It is found at different depths ; and it is remarked that light exerts a powerful influence on its growth as well as its colour,—the tint being darker in proportion to the deepness of the sea. Coral abounds in various parts of

erranean ; the most profitable fisheries of it are those of Majorca, Minorce, and Sicily : the Sicilian one is chiefly followed by the Trapanese, for the purpose to Bona in Africa. In the eastern seas, it is chiefly found in the Arabian Gulf, the west coast of Sumatra, and in Japan. Some kinds of corals increase to an extraordinary size, forming immense banks or masses of fine rocks, which are frequently dangerous to navigators.

CORSE, a measure for firewood, so called because it was anciently measured by its dimensions are stated to be eight feet in length, four feet in height, and four in breadth ; and its weight 10 cwts. It is equal to 1000 billets.

CORDE. [CABLE. ROPE.]

CORDE, a fabric of cloth originally composed of silk, but now very commonly made in England of cotton. The common kind is of a plain body, and is twilled in the back, and the best is twilled on both sides ; but there is of it a variety of qualities. The usual colours are olive, drab, slate, fawn, &c. The material is no doubt important, but ductility, pile of a moderate height, and a clear colour, are also characteristics of good corduroy. It is in pieces of a length from 40 to 70 yards.

CORNER-SEED is the fruit of an annual umbelliferous plant (*Coriandrum*) found wild about Ipswich and in some parts of Essex. When fresh, their flavour is strong and disagreeable, but by drying becomes sufficiently grateful. They are used in sweetmeats, in brewing, distilling, and in certain stomachic liqueurs ; and are common in cookery.

(Fr. *Liège*. Ger. *Kork*. It. *Sughero, Suvero*. Por. *Cortica de Sovreiro*.), the outer bark of a species of evergreen oak (*Quercus suber*), abundant in Portugal, Spain, especially Catalonia and Valencia, Italy, the south of France, and other countries. This substance is in reality dead bark, and its removal is effected without injury. The tree is first barked in the fifteenth year of growth, and this operation is repeated every eight or ten years afterwards. The bark is light, porous, compressible, and elastic. It should be chosen in fine layers, and not broken nor knotty, smooth when cut, and of moderate thickness. It is employed for stopping bottles and casks ; as floats for nets ; and for other purposes.

The best white cork is grown in France, but this country is supplied exclusively from Portugal,—whence it is imported generally as dunnage in connection with wine. The annual consumption is now about 60,000 cwts.

(Dan. *Korn*. Du. *Graanen, Koren*. Fr. *Bleds, Grains*. Ger. *Korn*, It. *Biade, Grani*. Lat. *Fruementum*. Pol. *Zboze*. Por. *Graos*. Rus. *Sp. Granos*. Sw. *Säd, Spanmal*), means strictly “grain in the ear,” or “unthrashed ;” but in commerce the term is applied in a more comprehensive sense to all kinds of grain or pulse fit for food, in whatever state of preparation.

I. HISTORICAL SUMMARY OF THE ENGLISH CORN-LAWS.

prior to 1688.—The general tendency of early legislation was to restrict the exportation of corn, in order to ensure a sufficient supply of food for the home market, while its importation was freely permitted. The first statute on record on this subject is the 34th Edw. III. c. 20, passed in 1360-61, which prohibited the exportation of corn. In the succeeding reign, in 1394 (17 Rich. II. c. 7), a counter-law was enacted, allowing exportation on payment of “the subsidies and devoirs due,” except when prohibited by the king in council ; a permission which was afterwards regulated under more definite limitations in 1436 by the act 15 Hen. VI. c. 2, which declared the export of corn legal only when its price did not exceed 6s. 8d. per quarter for wheat, and 3s. per quarter for barley. This act was continued in force until 1444-45 it was rendered perpetual.

The first symptom of a protective corn-law was in 1463, when the importation of foreign growth was prohibited unless the price of wheat should exceed 6s. 8d. per quarter, that of rye 4s., and that of barley 3s. From this we may conclude that the balance of prices had turned, and that, at least for a time, they were more favourable to England than in the neighbouring countries.

The laws regulating the exportation and importation of corn, continued in force until 1534, when exportation was prohibited, except “by license under the great seal ;” but it having been found impossible to enforce this law, it was found that better success would attend the regulation than the prohibition of the export, and accordingly the permission to export grain was restored in 1554, when the prices were at or under 6s. 8d. per quarter for wheat, 4s. for rye, and 3s. for barley. In 1562, these limits were enlarged ; the wheat to 10s., the rye to 8s.,

and the barley to 6s. 8d. ; and in 1571, it was enacted by the 13th Eliz. c. 13, that corn might be exported at certain specified duties at all times when no proclamation had been issued to the contrary. This act gave virtual freedom to the trade, as though the law of 1463 continued in existence, prohibiting importation while the price of wheat, rye, and barley should be under 6s. 8d., 4s., and 3s., respectively, the rates that had for some time prevailed rendered this law inoperative.

This system was continued in the succeeding reigns, but accompanied with various modifications, particularly as regards the prices at which export was permitted, which were from time to time enlarged, until in 1670 the shipment of wheat was allowed at any time when the price did not exceed 53s. 4d. per quarter. In order to keep the price at this high rate, heavy or rather prohibitory duties were at the same time imposed upon importation.

Besides thus trammeling the foreign trade in corn, our ancestors thought proper to impose restrictions upon the trade within the kingdom, under the impression that if the consumers could be brought to purchase immediately from the growers, the profits of intermediate corn-dealers would be saved,—and that the injurious effects of dearths, which then frequently occurred, were attributable to the practices of those dealers in buying up corn, and withdrawing it from market. In 1551, an act was passed declaring the buying of corn in one market with intent to sell it in another to be *engrossing*, an offence punishable with fine and imprisonment; and by a statute of Queen Elizabeth, no person was permitted to convey corn from one part of the kingdom to another without a license from the magistrates in quarter sessions. In 1624, these restrictions were considerably modified ; and in 1675, the engrossing of corn was made legal whenever the price of wheat did not exceed 48s.*

Period of the Bounty System from 1688 to 1815.—The era of 1688 is as important in the history of our corn-laws as of our constitution. Not satisfied with the degree of favour obtained by the law of 1670, the landowners succeeded, in 1688, in procuring an act (1 Wm. & Mary, c. 12), which provided that whenever wheat in the home market should be at or below 48s., and barley at or below 24s., there should be allowed a bounty on export of 5s. a-quarter for wheat, and 2s. 6d. for barley. By a subsequent act, in 1700, every thing in the shape of duty on English corn was relinquished by the crown ; and in 1707, on the legislative union with Scotland, the operation of the corn-laws was rendered uniform throughout Great Britain.

The grand argument brought forward in favour of the bounty law was its tendency to prevent a scarcity by inducing the farmers to raise a surplus stock of corn. If, however, as commonly alleged, the real view regarded an object more directly resulting from it, namely, the raising of the rent of land, the projectors of the law were disappointed. The result of the system was, as may naturally be conceived, a large exportation in abundant years ; but it had not, on taking a comprehensive view of its operation, the effect of creating a general or permanent rise of prices. On comparing the 70 years which followed the enactment of the bounty with the 70 that preceded it, we shall find (*Wealth of Nations*, b. i. c. 11), that the price of wheat was considerably lower in the latter period ; and there seems to be little doubt that by carrying cultivation at first too far, it had counteracted the intention for which it was framed. No progressive or constant rise was com-

* So lately as 1800, engrossing has been held to be an offence at common law, and a corn-dealer was convicted of it, though he was not brought up for judgment. "Those who still imagine," says Mr Buchanan, "that corn is artificially raised in price, would do well to consider that as the supply of provisions is liable to great variations, there must be some provision in the economy of nature for making a smaller supply last as long as a larger supply ; that there is no way of thus regulating the consumption but by the price, and that it is, accordingly, in reference to this great object that the price is invariably fixed. It neither can be lowered nor increased but for the sake of more exactly suiting the daily and weekly waste to the supply of the year. If we suppose, for example, that the supply falls in one year one-twelfth below the level of an average crop (which we know frequently happens), it would, if consumption were to go on at the ordinary rate, be consumed in the course of eleven months, leaving the last month wholly unprovided for. But this we know never happens, and it is only prevented by a rise of price, which measures the consumption by the deficiency of the crop ; and whether, therefore, there is an abundant, middling, or scarce crop, a suitable allowance is sure to be measured out to the consumer, by a low, a middling, or a high price. The corn-dealer, indeed, thinks nothing about all this ; his object is to sell his commodity at the highest price ; and in a scarcity he takes his full advantage ; but while he is thinking only of himself,—while he is only playing his own paltry game, he is a mere instrument in the hands of Him who brings good out of evil, and who turns the little passions of men to the purposes of his own benevolence and wisdom. There is really nothing in nature more wonderful than that great law of society by which subsistence is measured out in due proportion to the supply of the year ; and the more deeply it is considered, the more worthy will it appear of profound and rational admiration." (*Buchanan's Edition of Wealth of Nations*, note c, vol. ii. p. 304.)

manicated to prices until after 1760, by which time the increase of our population began to be such as nearly to equal by their consumption the enlarged produce of the agriculturists. The rapid rise of price arising from this cause about ten years afterwards, induced government to resort at first to temporary prohibitions of export; but in 1773, the decisive step was taken of abrogating the bounty until our markets should fall below the price at which it was formerly allowed, namely, until wheat should be 44s. a-quarter, and barley 22s.; a measure which amounted virtually to its withdrawal. A more direct influence on the market, however, was effected by the abolition at the same time of the restraints on importation, which was now permitted at the nominal duty of 6d., so long as the home market should be at or above 48s. for wheat, and 24s. for barley. The object of these regulations was to maintain, as far as possible, a level rate of 48s., which the act assumed to be a fair price both for grower and consumer. This revolution in the law, though ascribed to the influence of Dr Smith and Mr Burke, arose more immediately from a consideration of the popular discontent attendant on the rapid advance of prices.

The landowners were loud in declaiming against this change,—ascribing to it that cessation in our exports which may be more justly attributed to the increased consumption attendant on an augmented population; and on the plea that the country might become dependent upon foreign states for food, this powerful class succeeded, in 1791, in procuring an act raising the price at which importation was allowed at 6d. per quarter, to 54s.; a duty of 2s. 6d. was imposed when the price was between 50s. and 54s.; and 24s. 3d. per quarter was charged when the price was below 50s. Under this act the maritime counties of England were divided into twelve districts, and importation and exportation in each were regulated by their respective prices.

In 1804, the price at which the prohibitory duty of 24s. 3d. was charged, was raised from 50s. to 63s.; between this last price and 66s., the duty was 2s. 6d.; and above 66s., it was 6d. per quarter. By this act, the mode of fixing the prices adopted in 1791 was altered, and the aggregate average of the twelve districts was taken as the measure for regulating importation and exportation.

In 1814 (54 Geo. III. c. 69), the bounty system was abolished; but it may be observed, that none could have been claimed at any time after 1792, in which particular year the average price was below that fixed in 1773.

Period from 1815 to 1828.—In 1815, a law (55 Geo. III. c. 26) was passed, after much opposition, and exciting great clamour, permitting the free importation of foreign corn to be warehoused, or re-exported, but forbidding the importation for consumption, unless the average prices were, for wheat, 80s.; for rye, pease, and beans, 63s.; for barley, 40s.; and for oats, 26s. Every kind might be brought from the colonies when the prices were, for wheat, 67s.; rye, pease, and beans, 44s.; barley, 33s.; and oats, 22s. Owing to deficient harvests in 1816 and 1817, prices were raised above these limits, and so much corn was imported free of duty, that a considerable surplus was left for future years. The harvest of 1822 was one of abundance, and during the next twelve months prices fell below what they had been since 1792. The projectors of the act of 1815 expected that its effect would have been to keep up wheat to about 80s. per quarter, but so far was this expectation from being realized, that, excepting in the years of scarcity already alluded to, the average price, up to 1828, when the system of prohibition was exchanged for that of a graduated duty, was only 58s. 5d.

Meantime, however, the law of 1815 was modified in 1823, so as to allow of importation whenever the price of wheat was 70s., for rye, pease, and beans, 46s., for barley, 35s., and for oats, 25s. per quarter, when a duty of 17s. was to be payable on wheat during the first three months of importation, and 12s. thereafter (and proportional rates for other grain); but prices were never such, during the continuance of this act, as to bring it into operation. In 1825, the importation of colonial wheat was permitted, upon payment of a duty of 5s. per quarter, without reference to the price in the British market. In the same year, another act was passed, permitting, until the 15th August, the entry of corn warehoused prior to May 1822 at a low duty; and in the following year, the apprehensions of a deficient harvest forced the government to the extraordinary step of having recourse to an order of council to admit 500,000 quarters of foreign wheat at an almost nominal rate of duty, in order, on the one hand, to alleviate the severity of the prohibitory system, and on the other, to prevent the opening of the ports, and the consequent probable admission of such a quantity of grain beyond the actual wants of the country as might have affected prices for a long period afterwards.

Provisions for the Weekly Returns to Comptroller.

Average Prices, § 30. The average prices of British corn, by which the said duties shall be regulated, shall be made up and computed on Monday in each week, in manner following:—The comptroller shall, each Thursday, from the returns received by him during the preceding week, ending on and including the Saturday in each week, add the total quantities of each sort of British corn sold, and the total prices for which the same shall have been sold, and shall divide the latter by the former; and the sum produced thereby shall be added to the sums in like manner produced in the five weeks immediately preceding the same, and the amount thereof being added by six, will give the sum which shall be taken to be the aggregate average price of each sort of British corn respectively; and the comptroller shall publish such aggregate weekly average in the next succeeding Gazette, and every Monday transmit a certificate thereof to the chief officer of customs at each of the ports of the U. K.; and the duties to be paid shall from time to time be regulated as each of the ports, by the average aggregate prices of British corn at the time of the entry for home consumption,

tion, of any corn, grain, meal, or flour, chargeable with any such duty, as such aggregate average prices shall appear, and be stated in the last of such certificates, which shall have been received by the chief officer of customs at such port.

Imperial Measures (§ 31) to be used in computing quantities.

British Corn (§ 33) shall be deemed to be all grain the produce of the U. K.

Returns believed by Comptroller to be untrue (§ 36) shall be represented to the committee of the Privy Council, who may direct him to omit the same from the computation of average prices.

Penalties, § 42-45. Every person required to make and deliver declarations, who shall fail to do so in the manner directed, shall forfeit £20 for each month during which he shall neglect or delay to make and deliver any such declaration; and every person failing to make returns in the manner directed, shall, for such offence, forfeit £20. And persons making false or fraudulent returns, shall be guilty of a misdemeanour.

Limitation of Actions, § 46. Actions under this act must be brought within three months of matter done. Defendants may plead the general issue, and if judgment given against plaintiff, the former shall have treble costs.

DUTIES ON FOREIGN CORN ENTERED FOR HOME CONSUMPTION.

IF IMPORTED FROM ANY FOREIGN COUNTRY.			
Average Price of British Corn.	Duty per qr.	Average Price of British Corn.	Duty per qr.
Under 31s. and under 32s. per qr.	10 8	Under 34s. and under 35s. per qr.	10 9
From 31s. under 32s., 1s. additional	9 8	And for each 1s. under 34s. such duty to be increased by 1s. 6d.	
32s. and under 33s.	9 8	35s. and under 36s.	9 8
33s.	8 8	And for every additional 1s. from 35s. to 36s. such duty to be decreased by 1s. 6d.	
34s.	8 8	At or above 36s.	1 0
35s.	8 8	Rye, Pease, and Beans.—36s. and under 37s. per qr.	16 9
36s.	8 8	And for each 1s. under 37s. such duty to be increased by 1s. 6d.	
37s.	8 8	37s. and under 38s.	15 6
38s.	8 8	And for every additional 1s. from 37s. to 38s. such duty to be decreased by 1s. 6d.	
39s.	8 8	At or above 38s.	1 0
40s.	8 8	Wheatmeal and Flour, per barrel of 196 lbs.—Duty equal to that on 38½ gallons of wheat.	
41s.	8 8	Oatmeal, per quantity of 181½ lbs.—Duty equal to that on 1 quarter of oats.	
42s.	8 8		
43s.	8 8		
44s.	8 8		
45s.	8 8		
46s.	8 8		
47s.	8 8		
48s.	8 8		
49s.	8 8		
50s.	8 8		
51s.	8 8		
52s.	8 8		
53s.	8 8		
54s.	8 8		
55s.	8 8		
56s.	8 8		
57s.	8 8		
58s.	8 8		
59s.	8 8		
60s.	8 8		
61s.	8 8		
62s.	8 8		
63s.	8 8		
64s.	8 8		
65s.	8 8		
66s.	8 8		
67s.	8 8		
68s.	8 8		
69s.	8 8		
70s.	8 8		
71s.	8 8		
72s.	8 8		
73s.	8 8		
74s.	8 8		
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80s.	8 8		
81s.	8 8		
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83s.	8 8		
84s.	8 8		
85s.	8 8		
86s.	8 8		
87s.	8 8		
88s.	8 8		
89s.	8 8		
90s.	8 8		
91s.	8 8		
92s.	8 8		
93s.	8 8		
94s.	8 8		
95s.	8 8		
96s.	8 8		
97s.	8 8		
98s.	8 8		
99s.	8 8		
100s.	8 8		

III. STATISTICS OF THE CORN-TRADE.

In presenting a brief summary of the progress of this branch of industry in the United Kingdom, we deem it unnecessary to go farther back than the year 1760, partly from the imperfect nature of the statistical materials previously in existence, but chiefly from the circumstance that it is from that period we may date the great development of manufactures, and commerce, and increase of town population, which caused Great Britain to become an importing instead of an exporting country for corn. Taking decennial periods, we find that, in the first ten years, 1760-1769,

"10,000 acres of arable and pasture land, which, as cultivated in 1801, supported 1327 inhabitants, do, at the present day, owing to the improvements brought about in the art of agriculture, support 5555 inhabitants;" being an increase of about $\frac{1}{4}$ th or 25 per cent. in this period. Again, if we compare the present state of the agricultural class with their condition before the last war, a still more advantageous contrast is exhibited. "With scarcely any exception," says he, "the revenue drawn, in the form of rent, from the ownership of the soil, has been at least doubled in every part of Great Britain since 1790. This is not a random assertion, but, as regards many counties of England, can be proved by the testimony of living witnesses, while in Scotland the fact is notorious to the whole population."

No means have been hitherto devised for ascertaining the actual produce of corn in this country. But looking to the statements of the best authorities, and allowing for the circumstance that nearly one-half of the population of Ireland live chiefly upon potatoes, the average annual produce of grain of all kinds, in the United Kingdom, may be estimated at about 56,000,000 quarters. Deducting one-seventh for seed, there remains 48,000,000 quarters for consumption as food, and otherwise. Adding to this the annual importation from abroad, which on an average of the 12 years from 1829 to 1840, inclusive, was 1,685,607 quarters, makes the total yearly consumption about fifty millions of quarters, or nearly one million of quarters a-week; of this upwards of one-fourth may be estimated to consist of wheat.

The extent to which the potato is used as food in Ireland allows a considerable quantity of grain, the produce of that part of the kingdom, to be sent to Great Britain. The quantity thus exported has (as shown in Table, No. I.) increased from between 300,000 and 400,000 quarters yearly, to about 3,000,000 quarters since the commencement of the present century. It chiefly consists of oats; this grain forming about five-sevenths of the whole, while the wheat is only about one-sixth. The shipments take place chiefly at the ports of Waterford, Limerick, Cork, Dublin, and Drogheda; large quantities are also sent from Wexford, Galway, Newry, Dundalk, Sligo, Londonderry, and Newport. The principal ports at which those shipments are received in Great Britain are Liverpool (about 450,000 quarters grain, and 1,200,000 cwts. meal and flour), London (from 600,000 to 900,000 quarters grain), and Glasgow (nearly 400,000 quarters grain, and 300,000 cwts. meal and flour); but a considerable share of this trade is likewise possessed by Bristol, Portsmouth, Gloucester, Southampton, Cardiff, Swansea, and Lancaster. (*Par. Paper*, 1839, No. 27.)

The chief seat of the British trade is London, where a great weekly market is held every Monday at the Corn Exchange, Mark Lane; Wednesdays and Fridays being also business days. The quantity of British grain annually brought coastwise to London is nearly 1,500,000 quarters, besides about 1,000,000 cwts. meal and flour; the shipments from thence, however, are trifling. The other ports which participate most largely in the coasting-trade in British corn, are, in respect to exports,—Yarmouth, Ipswich, Maldon, Lynn, Harwich, Colchester, Stockton, Berwick, Aberdeen, Montrose, and Banff; and in respect to imports,—Liverpool, Goole, and Hull, Newcastle, Bristol, Leith, Grangemouth, and Glasgow. The total quantity annually sent coastwise is about 3,500,000 quarters, besides nearly 2,000,000 cwts. flour and meal.

The total quantity of British wheat sold in the 150 towns from which returns are made to the Corn-office was, in the year 1829, 2,576,129 quarters; in 1834, 3,768,602 quarters; and in 1838, 4,064,305 quarters.

From the annexed accounts it will be seen that the foreign supplies are principally received from the north of Europe, especially Prussia, or rather Prussian Poland, the produce of which is brought down the Vistula on rafts to Dantzic, the chief port of shipment. The price of the wheat exported from this port averages rather higher than at other places, but this difference is more than counterbalanced by the superiority of its quality, which is nearly equal to the English, the "best white" or "high mixed" being indeed superior to our best. Hamburg is likewise an important grain market, being an emporium for the produce of the extensive countries watered by the Elbe, as well as for large quantities of Baltic corn. The chief other exporting ports in the north of Europe are Königsberg, Riga, Petersburg, Rostock, and Rotterdam. In the south of Europe, the only great shipping port is Odessa; but it is unlikely that any considerable quantity will be ever imported from thence to Great Britain, as, owing to the distance between the two places, it is essential, to preserve the wheat in condition and from heating, that the voyage should be undertaken in winter. A fuller account of the corn-trade at these places will be found under the heads PRUSSIA, HAMBURG, RUSSIA, MECKLENBURG, and HOLLAND.

The quantity of foreign corn entered for home consumption varies of course according to the productiveness of our harvest. In 1833, it was only 110,307 quarters; while, in 1839, it amounted to no less than 4,632,261 quarters, being the largest supply ever introduced into this country in any one year. The latter quantity must have constituted a very considerable proportion of the grain brought to our markets in 1839, as, besides the great deficiency in the harvest of the previous year, it must be borne in mind that a portion of the produce of this country, which has been variously estimated at from a half to two-thirds of the whole, is never brought for sale, but is consumed in the agricultural districts, and employed as seed. Its influence in checking prices must also have been considerable; for, as we have elsewhere shown [PRICE], the natural effect of a deficiency in the supply of so necessary an article as corn, is to produce a more than equivalent rise in its price.

An account of the varieties and qualities of the different kinds of grain will be found under the heads WHEAT, OATS, BARLEY, &c.

No. I. STATEMENT of the Quantities of Irish Grain (principally Oats) imported into Great Britain in each Year from 3d January 1800 to 3d January 1840.

Yrs.	Quarters.	Yrs.	Quarters.	Yrs.	Quarters.	Yrs.	Quarters.	Yrs.	Quarters.	Yrs.	Quarters.
1800	3,208	1807	463,195	1814	612,463	1821	1,022,816	1828	2,896,560	1835	2,672,450
1801	523	1808	636,770	1815	891,132	1822	1,063,089	1829	2,307,244	1836	2,328,273
1802	461,371	1809	933,478	1816	873,863	1823	1,536,133	1830	2,215,531	1837	3,000,383
1803	343,347	1810	631,227	1817	686,631	1824	1,634,000	1831	2,429,122	1838	3,474,300
1804	316,956	1811	429,867	1818	1,204,733	1825	2,203,963	1832	2,000,767	1839	2,843,140
1805	304,124	1812	397,336	1819	967,680	1826	1,693,308	1833	2,737,441	1840	2,327,906
1806	490,780	1813	977,164	1820	1,415,722	1827	1,628,460	1834	2,720,608		

The quantities of the different kinds imported from Ireland in 1839 were as follows:—Oats, 1,321,348 quarters, and oatmeal, 917,061 cwt. (equivalent, at 176 lbs. per quarter, to 583,584 quarters grain); wheat, 98,473 quarters, and flour, 550,304 cwt. (equivalent, at 392 lbs. per quarter, to 139,838 quarters grain); barley, including bear or blyg, 61,673 quarters; rye, 2331 quarters; pease, 1484 quarters; beans, 11,335 quarters; malt, 2061 quarters; in all, 2,343,140 quarters as above.*

No. II. ACCOUNT of the Quantities of Foreign and Colonial Wheat imported; the average price of British Wheat, according to the London Gazette; and the nature of the Crops from 1800 to 1828 inclusive.

Year	Nature of Crop.	Price.	Quarters.	Year.	Nature of Crop.	Price.	Quarters.
1800	Bad	110 5	1 242 567	1815	Full average.	63 8	
1801	Good	113 11	1 386 350	1816	Scarcity	76 2	235,263
1802		67 9	428,356	1817	Not above average	94 0	1,030,948
1803	Average	57 1	257 145	1818	Price	83 8	1,303,516
1804	Deficient	60 5	240,167	1819	Rather below average	72 3	122,120
1805		67 1	841,879	1820	Above average.	68 10	34,274
1806	Average	76 9	289,776	1821	Average	54 8	3
1807		73 1	379,833	1822	Average	43 3	
1808	Partial deficiency.	74 11		1823	Below average	51 9	12,137
1809	Scarcity	94 8	424,709	1824	Average	62 0	18,777
1810	Good crop	103 3	1,401,341	1825	Nearly average.	66 6	525,231
1811	Deficiency	99 8	238,366	1826	Average.	56 11	315,882
1812	Favourable	122 8	244 385	1827		56 9	572,723
1813		106 6	425,559	1828	Scarcity.	60 8	842,626
1814	Nearly average	78 1	681,333				

* In charging duties, and in conversions in the public accounts, the following quantities of flour or meal are respectively deemed to be equivalent to one imperial quarter of grain; namely, wheat-meal or flour, 362 lbs.; barley-meal, bean-meal, and meal of maize or Indian corn, 384 lbs.; rye-meal, 424 lbs.; and oatmeal, 176 lbs.

In converting the weight of grain into measure, the rule adopted in the accounts of the Board of Trade, is that laid down in the act 1 & 2 Geo. IV. c. 87. § 37, according to which, 57 lbs. wheat, 65 lbs. rye, 49 lbs. barley, 42 lbs. bear or blyg, and 38 lbs. oats, are respectively deemed to be equal to 1 Winchester bushel. These proportions give the following equivalents to 1 imperial quarter, namely, 470.37 lbs. wheat, 453.67 lbs. rye, 404.35 lbs. barley, 346.09 lbs. bear or blyg, and 289.0 lbs. oats.

The Irish barrel of wheat, pease, beans, and rye, equal 20 stones, each of 14 lbs. avoirdupois; the barrel of barley, bear, and rapped, equal 16 stones; the barrel of oats generally equal 14 stones; and the barrel of malt, 12 stones.

No. III. STATEMENT of the Quantities of Foreign and Colonial Corn entered for Home Consumption in the United Kingdom; the Imports from Ireland into Great Britain; the average Prices of British Wheat, Oats, and Barley, according to the London Gazette; and the Nature of the Crop for each Year, from 1829 to 1840 inclusive.

Year.	Nature of Crop.	Average Prices per Quarter.						Foreign & Colonial Grain entered for Consumption.		Imports from Ireland into Great Britain.	
		Wheat.		Barley.		Oats.		Wheat.	Other Grain.	Wheat.	Other Grain.
		s.	d.	s.	d.	s.	d.				
1829	Average...	66	3	32	6	22	0	1,379,174	579,839	519,037	1,788,927
1830	Full average...	64	3	32	7	24	5	1,711,876	1,039,291	529,717	1,685,804
1831	Nearly average	66	4	38	0	25	4	1,510,486	1,069,033	557,498	1,871,684
1832	Above average	56	8	33	1	20	5	376,638	116,304	790,293	2,200,474
1833		52	11	27	6	18	5	84,037	26,270	844,211	1,893,230
1834		46	2	29	0	20	11	64,976	160,955	779,506	2,013,153
1835	Abundant	36	4	29	11	22	0	28,555	400,342	661,776	2,017,069
1836	Above average	48	6	33	10	23	1	30,108	377,343	598,757	2,359,515
1837	Under average	55	10	30	4	23	1	244,275	595,648	534,465	2,496,826
1838	Scarcity...	64	7	31	5	22	5	1,618,477	90,771	542,583	2,931,719
1839	Under average	70	9	36	6	25	11	2,711,300	1,930,952	256,331	1,984,818
1840	Average...	66	4	36	5	25	8	2,401,367	1,443,378	174,440	2,153,589

No. IV. STATEMENT of the Quantities of Foreign and Colonial Corn Imported, Re-exported, and Entered for Consumption, in each of the Years from 1829 to 1839, inclusive; also of the Quantities remaining in the Bonded Warehouses of the United Kingdom at the end of each of the said Years respectively.

	1829.		1830.		1831.	
	Wheat.	Other Grain.	Wheat.	Other Grain.	Wheat.	Other Grain.
	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
Imported from						
North of Europe.....	1,242,340	942,848	1,289,668	722,716	1,070,309	1,121,580
South of Europe.....	275,551	19,726	63,201	15,702	513,435	39,207
British America.....	5,830	1,677	76,054	2,647	218,328	7,038
United States.....	113,818	140	184,299		464,793	2,468
Other places.....	34,574	7,229	34,121	8,379	52,820	1,389
Total ..	1,671,039	971,620	1,677,942	749,444	2,319,486	1,171,920
Re-exported.....	72,376	79,138	34,690	63,510	63,073	45,545
Entered for consumption.....	1,379,174	579,839	1,711,876	1,039,291	1,516,486	1,060,833
In warehouse.....	247,782	—	184,367	—	901,445	300,537
	1832.		1833.		1834.	
	Wheat.	Other Grain.	Wheat.	Other Grain.	Wheat.	Other Grain.
	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
Imported from						
North of Europe.....	297,447	162,927	171,963	145,874	19,526	377,341
South of Europe.....	5,642	7,433	852	4,771	2	1,210
British America.....	103,468	8	100,557	10	58,446	283
United States.....	39,117	2	10,188	6	9,963	—
Other places.....	29,384	782	39,024	12	36,076	1,007
Total ..	464,068	171,149	322,583	150,673	202,043	379,847
Re-exported.....	289,169	112,843	93,769	25,603	159,499	24,583
Entered for consumption.....	376,638	118,394	84,037	26,270	64,975	168,955
In warehouse.....	702,290	968,544	822,852	365,926	774,185	548,064
	1835.		1836.		1837.	
	Wheat.	Other Grain.	Wheat.	Other Grain.	Wheat.	Other Grain.
	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
Imported from						
North of Europe.....	39,281	238,763	227,294	397,398	525,496	721,129
South of Europe.....	2,174	22	1,011	567	12,623	29,847
British America.....	17,107	694	5,150	4	2,722	9
United States.....	1,945	—	338	—	37	—
Other places.....	28,828	22	28,681	621	37,437	817
Total ..	89,035	239,469	261,074	399,590	578,315	751,794
Re-exported.....	132,223	79,875	255,037	80,082	308,192	68,207
Entered for consumption.....	28,555	408,342	30,106	377,340	244,275	595,648
In warehouse.....	681,150	304,109	631,442	241,044	644,671	332,813

Imported from	1832.			1833.		
	Wheat.	Oats.	Other Grain.	Wheat.	Oats.	Other Grain.
	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
Russia.....	41,409	10,829	1,994	373,880	316,823	35,473
Denmark.....	133,566	4,139	23,228	207,246	45,236	254,173
Prussia.....	546,003	199	10,415	767,735	90,581	330,527
Germany.....	350,139	16,816	55,768	426,737	75,010	142,803
Holland.....	82,011	23,888	4,907	116,901	101,326	26,226
Belgium.....	18,437	408	1,648	24,873	21,126	4,894
France.....	60,831	.....	724	311,189	8,640	125,641
Spain.....	421	.....	7	17,794	.....	601
Italy.....	31,006	.....	.....	341,180	.....	.....
Malta.....	11,847	.....	.....	16,370	.....	1,081
Ionian Islands.....	5,370	.....	.....	13,289	.....	.....
Turkey.....	2,160	.....	.....	43,787	.....	1,777
East Indies.....	5,404	4	85	6,011	.....	26
British America.....	11,356	.....	40	7,769	.....	279
United States.....	6,141	.....	14	127,406	.....	.....
Channel Islands.....	41,545	1,497	4,184	46,363	428	7,248
Other places.....	892	.....	2,745	40,032	2,904	4,266
Total.....	1,389,327	86,970	106,471	2,889,854	670,117	982,201
Re-exported.....	156,105	54,424	31,266	10,863	40,205	7,210
Entered for consumption.....	1,848,477	11,005	79,766	2,711,319	864,940	1,086,711
In warehouse.....	25,729	242,189	69,044	175,956	18,836	6,746

No. V. A RETURN of the Highest and Lowest Prices of Wheat, and the Difference per Cent., in each of the Years from 1829 to 1838 inclusive, in England and Dantzic. (*Par. Paper*, 1840, No. 177.)

Years.	ENGLAND.			DANTZIC.		
	Lowest.	Highest.	Differ. per Cent.	Lowest.	Highest.	Differ. per Cent.
	s. d.	s. d.		s. d.	s. d.	
1829.....	55 4	75 12	37	30 8	68 1	98
1830.....	55 6	74 11	35	29 9	48 8	62
1831.....	56 9	75 1	32	40 2	49 6	22
1832.....	51 3	63 7	24	28 10	42 6	47
1833.....	49 2	66 5	34	26 4	39 0	47
1834.....	40 6	49 6	22	23 8	26 6	12
1835.....	36 0	44 6	23	20 1	24 11	24
1836.....	36 0	61 9	69	21 10	34 10	60
1837.....	51 0	60 1	17	23 2	33 11	45
1838.....	53 4	76 4	50	24 1	61 2	154

No. VI. Account of the Total Quantity of Foreign and Colonial Wheat and other Grain and Pulse entered for Home Consumption in the United Kingdom, from the time (15th July 1828) the Act 9 Geo. IV. cap. 60, came into operation, to the 5th day of January 1839; the Total Amount of Duty received thereon; and showing what that Duty was equal to per Imperial Quarter on the Aggregate Average of all this Period.

	FOREIGN PRODUCE.			COLONIAL PRODUCE.		
	Quantities charged with Duty for Home Consumption.	Amount of Duty received.	Average rates of Duty.	Quantities charged with Duty for Home Consumption.	Amount of Duty received.	Average rates of Duty.
	Qrs.	£	Per Qr.	Qrs.	£	Per Qr.
Wheat.....	6,777,630	2,039,115	6s. 0d.	519,530	96,121	3s. 9d.
Barley.....	1,309,982	414,921	6 0	314	23	1 6
Oats.....	2,130,584	766,429	7 2	8,977	226	0 8
Rye.....	164,685	36,546	4 4	.....	.....	.....
Pulse.....	475,922	176,920	7 5	6,622	628	1 11
Beans.....	550,616	265,776	9 8	.....	.....	.....
Indian Corn.....	102,713	19,271	3 9	5,482	384	1 3
Buck Wheat.....	37,361	11,906	6 4	.....	.....	.....
	Cwts.		Per Cwt.	Cwts.		Per Cwt.
Wheatmeal & Flour.....	2,915,037	191,978	1 9	505,745	41,622	1 6
Oatmeal.....	177	52	5 11	1,843	79	6 10

IV. GENERAL OBSERVATIONS.

quality of the seasons is one of those obvious facts which force themselves upon the attention of all. Equally so is the fact, that this inequality is greater in a small than in a large district; and that, other things remaining the same, in a small territory which supplies subsistence is extended, the difference in the activity of the seasons will be lessened. It is thus that, by leaving the trade of a kingdom unshackled, the deficiency of one district is, in a year's harvest, compensated in a greater or less degree by the comparative abundance of another; while the pressure is equalised throughout the year by the spontaneous operations of the corn-dealer, which force the people upon that timely economy in the consumption of food, which, from ignorance or improvidence, they might fail to adopt. But the merchant who equalises the supply of subsistence in all the countries of the world, performs, though on a grander scale, and in a more accurate manner, functions precisely analogous to those discharged by the local dealer,—in a manner more accurate, because the irregularity of the supply in any territory is in an inverse ratio to its extent. On the same grounds, it follows that prices must be always variable in a limited market, and steady in proportion as the market is extended.

These principles, however, in so far as they relate to foreign trade, have seldom been allowed to exercise an unfettered influence over national policy. In this country the exportation of corn was at one time prohibited; at another it was encouraged by a bounty; while at a third its importation was subjected to restriction.

The last, the existing practice, being one about whose expediency opinion is much divided, we propose to state briefly the grounds upon which it is maintained, and the objections that are commonly urged against it.

Policy of restraining importation professes to have in view two objects:—1st. To render the country independent of foreign supplies; 2^d. To protect and encourage agriculture.

The first object was much insisted on in 1815, in consequence of the exposure in which Great Britain had stood in reference to other countries during a considerable part of the last war; and it is still maintained, though perhaps not so strongly as formerly. The opponents of the corn-law, however, urge that a combination of foreign powers as should render importation impossible, or difficult, is a contingency scarcely conceivable, and totally at variance with the experience of those countries, especially Holland, that have adopted a different policy. That it is even opposed to our own experience, in as far as we have been formerly in part dependent on other countries; a large portion indeed of the grain in 1810, in consequence of the deficient harvest of 1809, having been brought into the country in the midst of war: Moreover, that we import from foreign countries wool and other materials necessary in manufactures, affording employment and subsistence to several millions of our population, but that the interests and the country are sustained through means of such transactions, instead of being endangered by political security, are the surest guarantees of prosperity and peace.

The duty on grain, considered in reference to the protection of British corn, is to be viewed partly as a countervailing duty for their peculiar burdens, and partly as having for its object the securing to them of the home market.

The principal burdens imposed on the agriculturists exclusively, or in a greater degree than on others, are stated to be tithe and poor-rate, the countervailing for which is estimated by Mr M'Culloch at 5s. or 5s. 6d. a-quarter on the average, namely, 3s. 6d. for tithe, and from 1s. 6d. to 2s. for poor-rate. On the other hand, it is urged by many that the agriculturists are not subjected to greater burdens than other classes, more especially since the late alteration of the poor-law, the contrary is the case, all the direct public taxes affecting the occupation of the farmer having been repealed; also that land is proportionally less burdened in Britain than in most other countries: Farther, that even admitting any such taxation to exist, it is much more than counterbalanced by the charges on the importation of so bulky and perishable an article as corn.

A surplus of duty on foreign grain beyond the peculiar burdens of the corn-growers, is levied with the view of securing to them a preference in the market, similar to the legislative privilege in this respect enjoyed by other branches of industry; and they maintain that, having laid out much capital on the basis of the continued existence of the present state of things, they are entitled to have it not speedily altered. To this it is answered—That the "monopoly" of agriculture gives an enhanced value to the prime necessary of life; and that a preference is eminently injurious to the general body of consumers, and particu-

larly to the manufacturers, who, while the cost of food is thus artificially raised, are engaged with foreigners in an arduous competition, the effect of which is to reduce profits and wages to the same level, whether on the Continent or in England: That the views entertained by the landowners themselves, as to their suffering from a change of the existing law, are exaggerated, if not unfounded; while, in the opinion of many, instead of being benefited they have been directly injured by the restrictive system, which, by holding out a fancied security, has led only to continued alternations of over-production, "agricultural distress," and short supplies.

These observations have reference solely to the principle of a restrictive corn-law. Whether, holding that a duty should be imposed, the present scale is injurious from its varying character, is no less a subject of controversy. The principal advantage expected from the sliding duty was, that it would tend to preserve uniformity of prices. But the extremes in the weekly averages, since it was introduced, have been 36s. in December 1835, and 81s. 6d. in January 1839,—a difference of 126 per cent. Again, a graduated duty which fluctuates with the variations of price, can never be appreciated beforehand, and is, as is well known, a fertile source of delusion. Thus, suppose a merchant commissions a cargo of foreign wheat when the home price is 71s., and when, of course, the duty is 6s. 8d.; and suppose, at the same time, that when he brings his wheat to market the price has fallen 3s., that is, to 68s., he will in such case (besides losing by the fall of price) have to pay a duty of 16s. 8d., or 10s. a-quarter more than his estimate. In the case of a rising market, the advantage, it is true, will be on the side of the corn-merchant; but a law which thus adds to the loss of an unsuccessful and to the profit of a successful speculation cannot be deemed beneficial. An equal degree of uncertainty is communicated to the operations of the foreign grower, who, of consequence, limits his produce to the market upon which he can fairly calculate. In this way, the graduated duty prevents that early importation of grain which merchants would have recourse to even in the distant prospect of a scarcity, and leads to its being delayed until after the emergency has arisen, and when the payment of its price cannot be effected by shipments in the ordinary course of trade, but must be made suddenly in bullion,—a circumstance which generally leads to a pecuniary crisis. Such a crisis occurred, as is well known, in the sudden exportation of bullion to an immense amount in 1839, which led to the convulsion of the money-market, much distress in trade, and the narrow escape of the Bank of England from a suspension of specie payments.

No one can doubt the necessity of approaching with caution any alteration of the laws affecting so important a branch of industry as agriculture, because any great shock given to the corn-growers would be at the least as hurtful to others as to themselves. But it is the opinion of many eminent authorities, that the interests of all classes would be consulted by changing the present system for that of a fixed duty. And that this need not be high, in order to ensure safety to the landowner, may be inferred from the facts that, taking a series of years, the average price of wheat at Dantzic (the cheapest exporting port) is not under 35s., while, in the event of a demand from this country, it invariably rises to 40s. and upwards; and that the charges of transport, exclusive of the importer's profit, are fully 10s. a-quarter.* A moderate duty added, therefore, would obviously afford ample protection, more especially when it is considered that the average price of wheat in England, during the six years ending with 1837, was only 50s. 3d. a-quarter; while, during the ten years ending with 1840, it was not more than 56s. 11½d.; and that, during the greater portion of this period, cultivation was never carried on with more spirit or success. Landlords should also keep in view that high rents do not altogether depend upon high prices; for the additions to the present, compared with the former rent-rolls, have been much greater than can be accounted for by the advance in the price of corn. This is owing to various circumstances,—to increased population and wealth,—to the better adapted application of capital to land, to greater economy, and to the progress of agricultural science. These causes of a rise of rents are still in action, and will continue to be so even with additional efficiency; and their progress will of course still further remove all chance of inconvenience from a modification of the present system.

* "The charges, in ordinary times," says Mr Porter of the Board of Trade, "of merely transporting a quarter of wheat from the north of Germany and the lower ports of the Baltic to England, are stated, on good authority, to be 10s. 6d., in addition to all the charges on shipping; and I am assured that, in order to get back in London the cost of a quarter of wheat bought in the Dantzic market, with the lowest rate of mercantile profit, it must be sold at an advance of 18s. upon the original cost." (*Effects of Restrictions on the Importation of Corn*, p. 27.)

CARNELIAN. [CARNELIAN.]

LOMANDEL-WOOD, the produce of a tree of great size, is used in cabinet like zebra and rose wood. But it is inferior to the last in the brilliancy of its colours, having a dingy ground, and sometimes running into streaks.

LUNDUM. [ADAMANTINE SPAR.]

COVETTE (Fr.), a small vessel of war, usually carrying from 10 to 20 guns. S, also called the *Cos*, *Cros*, *Crosa*, and *Hardary*, is an Indian itinerary measure, varies in different places. It is generally distinguished into the *standard cos* and the *common cos*; the former is deduced from its proportion to a degree of the meridian, the latter rests on popular computation. Thus the standard cos is, in some places, 35 to a degree; in others, 37½, 40, and 45; while the common cos varies from 2½ to 2¾ British miles. In the map of Central India prefixed to Sir John Malcolm's Memoir, 42 cosses are reckoned to 1 degree. The Bengal cos of 1000 cosses = 1 Brit. mile 1 furlong 3 poles and 3½ yards.

COTTON-WOOL, or COTTON (Dan. *Bomuld*. Du. *Boomwol*, *Katoen*. Fr.

Ger. *Baumwolle*. It. *Bambagia*, *Cotone*. Por. *Algodao*. Rus. *Chlobits*, *Bumaga*. Sw. *Bomull*. Sp. *Algodon*. Hindus. *Ruhi*. Malay, *Kapas*), a plant growing in warm climates, and indigenous to India and America. It is produced within pods which protect it from injury by dust or weather; it is ripe and fit to be gathered, when the heat of the sun causes it to expand and open the pod. It is of a white or yellowish-white hue, possesses downiness and warmth, and its delicate fibres are sufficiently long, flexible, and strong to admit of being spun into a fine thread. The usual distinctions of the cotton are, 1st, *Tree Cotton*; 2d, *Shrub Cotton*; 3d, *Herbaceous Cotton*; of each of these there are several kinds,—the plant having a great tendency to run out into a tree.

Tree Cotton (*G. Arboreum*) is found in India, China, Egypt, the western part of Africa, and in some parts of America. It only attains the height of from 12 to 15 feet; but another cotton-bearing tree (*Bombax ceiba*), seen in the West Indies and elsewhere, called familiarly the *umbrella tree*, attains the height of 100 feet. The produce of the latter, however, is of so short and brittle a fibre, that it is unfit for spinning or any other purpose, except stuffing pillows and beds.

Shrub Cotton (*G. religiosum*) occurs in one or other of its varieties throughout the tropical parts of Asia, Africa, and America. In appearance it resembles a currant bush. Its duration varies according to the climate; in the hottest countries it is perennial, while in cooler places it becomes an annual. In the former, two crops a year are gathered, one from October to December, the other from February to April. The Guiana, Brazil, and most of the West India cotton is of this kind; the fibre being also long stapled.

Herbaceous Cotton (*G. herbaceum*), by far the most useful and important of the kinds we have noticed, is an annual plant cultivated in the United States, India, and many other countries. It attains the height of 18 or 24 inches. The seed is usually planted in rows in March, April, and May; and the cotton is gathered by hand within a few days after the opening of the pods, in August, September, and October. It is to this kind that the planters confine their attention in the southern part of North America,—the places where cotton is most extensively cultivated, where the following varieties are commonly distinguished:—1st, *Nankeen Cotton*, abundant in produce, the seed covered with down, the wool of a dirty yellow colour, and usually low priced. 2d, *Green-seeded Cotton*, which, as well as the former, is grown in the upland and middle districts, whence the latter is called *upland cotton*, also *short-staple*, and, from the mode in which it was formerly cleaned, *Georgia Cotton*. This kind was at first chiefly raised in Georgia and South Carolina, but of late years it has been very greatly extended in Alabama, Mobile, and the Valley of the Mississippi. 3d, *Sea-island* or *Long-staple Cotton*, the finest of the cottons is distinguished by the black colour of its seed, and the fine yellowish-white, and silky long staple by which it is surrounded; it is grown in the lower part of Georgia and South Carolina, near the sea, between Charleston and Savannah, and on small islands adjoining the shore. Owing to the peculiar combination of circumstances requisite for the production of this kind, it forms only a small proportion (about 12,000,000 lbs.) of the cotton grown in the United States; but the quantity is on the increase.

All the varieties of the plant require a dry and sandy soil. Marshy ground is unfit for it, and a wet season is destructive to the crops, which are besides liable to various diseases to which the plant is subject, particularly blight pro-

duced by wetness at the roots. In general, it flourishes most luxuriantly, and yields produce of the best quality, on the coast, as is proved by the growth of the sea-island cotton, which is mostly exposed to the action of the ocean's spray; and a manure of salt mud is known to impart a healthful action to the plant, and to produce a staple at once strong and silky. To this rule, however, the fine Pernambuco cotton is an exception; also the Egyptian, the growth of the upper provinces being greatly superior to that of the Delta. In the United States, land fresh brought under cultivation will yield, on an average, from 1000 to 1200 lbs. per acre of cotton with the seed, which will give, of clean cotton, from 250 to 300 lbs.; but in the old states, the produce is not more than one-half of this quantity.

The operation of gathering the ripe cotton requires to be performed with great care; and its separation from the seeds is a work of some difficulty, and one which must be done effectually before the article is packed, otherwise it will become oily and mouldy, and by the particles of seed and dirt be rendered unfit for spinning. In Asia this is slowly performed by a rude hand-mill or roller-gin, by which not more than from 40 to 65 lbs. a-day can be cleansed. The sea-island cotton is still separated from the seeds by rollers, constructed however on a powerful scale; but, excepting this kind, all the North American produce is cleaned by the saw-gin, invented in 1793 by Mr Eli Whitney, of Massachusetts, by which one man may separate 3 cwts. in a day. This invention forms an important era in the history of the cotton-trade, as, though the instrument injures, in some degree, the fibre, the process is so rapid as to have been the main cause of the cheapness of the short-stapled American cottons, and thus has powerfully contributed to the extension of its cultivation.

After the cotton is separated from the seeds, it is packed in large canvass bags, commonly with the aid of a screw or hydraulic press, into a very dense bale, for the convenience of transport. The bale of Virginia, Carolina, Georgia, or West India cotton weighs from about 300 to 310 lbs.; that of New Orleans and Alabama, from about 400 to 500 lbs.; the East India bale, 320 to 380 lbs.; the Brazilian, 160 to 200 lbs.; and the Egyptian, 180 to 300 lbs.

In the infancy of the manufacture, England obtained the raw material from the Mediterranean and Levant. In last century, the largest supplies came from the West Indies and South America; but before 1779, the quantity annually imported scarcely exceeded 5,000,000 lbs. In 1786, when the total imports were 19,900,000 lbs., there were brought from the British West Indies 5,800,000 lbs.; French and Spanish colonies, 5,500,000 lbs.; Dutch colonies, 1,600,000 lbs.; Portuguese colonies, 2,000,000 lbs.; Smyrna and Turkey, 5,000,000 lbs. Prior to the American revolution, it was raised to a limited extent in the southern colonies for domestic use; and after the peace of 1783, small quantities were exported from Georgia. It was not, however, cultivated to much extent for exportation until about 1791 or 1792. Soon after which it became the great staple of South Carolina and Georgia, and lately of the new states in the south-west. In 1791, the quantity exported was only 189,316 lbs.; but in 1794, it was increased to 1,601,760 lbs.; in 1800, to 17,789,803 lbs.; since which, owing to Mr Whitney's invention, and the industry and enterprise of the American planters, the exports have gradually risen to be in value equal to one-half of the whole domestic exports of the United States. [UNITED STATES.] An equally rapid extension has occurred in the consumption of the article in this country, in consequence of the discoveries of Hargreaves, Arkwright, Crompton, Cartwright, and others, as noticed in the next article.

The following statements of the production and distribution of cotton in 1834 are derived from tables compiled by order of the American Congress, and presented to the House of Representatives by Mr Levi Woodbury, late Secretary of the United States Treasury.

Estimated Production in 1834.

	lbs.
United States	460,000,000
Brazil	30,000,000
Mexico and South America (exclusive of Brazil)	35,000,000
West Indies	8,000,000
Egypt	25,000,000
Other parts of Africa	34,000,000
India	185,000,000
Other parts of Asia	110,000,000
Other parts of the World	13,000,000
Total	900,000,000

Distribution in 1834.

	lbs.
Exports from U. States to England ..	266,750,000
..... to France ..	79,900,000
..... to other places ..	20,000,000
Total from United States ..	366,650,000
Exports from India to England	32,000,000
..... to China	40,000,000
Brazil to England	12,000,000
West Indies to England	4,000,000
Brazil & West Indies to France	4,000,000
Egypt & Turkey to England	1,500,000
..... to France	7,000,000
Total	473,150,000

between the quantities produced in and exported from the countries represent the probable consumption in the places of growth. If the cultivation has been materially increased, particularly in the United States, and Egypt, to which heads, as well as those of the other countries of Asia, we refer for further information.

The following table exhibits the progress of the British trade since 1820; annexed is the average annual price of upland or bowed Georgia cotton, which is considered as forming a standard by which the value of other kinds is determined.

Table of the Quantities of Cotton-wool Imported into the United Kingdom, and Quantities Exported and Entered for Home Consumption; also the average of Upland or Bowed Georgia in each year, from 1820 to 1840 inclusive.

Year.	Imports.			Exports.	Entered for Consumption.	Upland per lb.
	United States.	Other Countries.	Total.			
	lbs.	lbs.	lbs.	lbs.	lbs.	d.
1820	80,389,174	61,873,481	151,472,655	8,124,038	122,829,623	11½
1821	93,470,748	29,085,873	132,556,621	14,549,487	137,441,349	9½
1822	101,031,798	41,805,863	142,837,661	18,379,776	143,428,137	9½
1823	149,339,119	48,870,391	198,449,510	9,118,473	188,111,070	9½
1824	99,187,498	87,199,491	186,386,989	13,799,343	143,079,743	9½
1825	139,348,884	89,096,849	228,445,733	18,104,813	207,346,920	10½
1826	136,834,207	46,749,128	177,583,335	24,474,920	162,889,018	9½
1827	216,974,812	83,524,077	272,448,889	18,134,171	249,814,396	9½
1828	181,739,390	78,008,353	257,797,743	17,899,776	241,887,744	9½
1829	157,187,395	63,580,015	222,767,411	20,389,115	204,097,137	9½
1830	210,185,358	83,078,064	293,263,422	8,534,976	285,116,607	9½
1831	219,133,698	99,341,225	318,474,923	29,349,543	273,249,683	9½
1832	219,756,783	87,078,772	306,835,555	18,727,940	259,412,463	9½
1833	237,348,738	96,130,079	333,478,817	17,963,672	243,421,374	9½
1834	299,813,078	87,078,360	386,891,438	24,461,963	289,035,437	9½
1835	304,453,812	79,247,151	383,700,963	29,779,734	326,447,899	10½
1836	309,615,602	117,345,365	426,960,967	31,729,723	363,084,824	10½
1837	380,651,716	86,618,487	467,270,203	39,722,131	398,445,035	9
1838	431,475,898	70,412,689	501,888,587	39,644,879	455,039,758	9½
1839	311,263,840	70,389,495	381,653,335	37,515,343	335,781,090	9
1840	409,879,810	194,397,394	604,277,204	39,073,289	531,197,689	9

78,412,689 lbs. Imported from other countries than the United States in the latest year for which the particulars are given in the public accounts, there being from East Indies 40,317,734 lbs.; Brazil, 24,484,605 lbs.; Egypt, 3 lbs.; Colombia, 2,877,194 lbs.; British West Indies, 1,529,586 lbs.; Italy, 764 lbs.; Turkey, 660,555 lbs.; Chili, 424,633 lbs.; Peru, 131,380 lbs.; other 258,163 lbs. The re-exportations are almost exclusively to Germany, Holland, Russia, and Italy.

The supply of cotton derived from India has increased considerably within the years, owing to the great attention which is now paid to its cultivation by the British. The average importation of the three years 1827, 1828, and 1829, was 98,643,467 lbs., whereas that of the three years, 1837, 1838, and 1839, was 60 lbs.; being an augmentation of fully 75 per cent. On the other hand, the importations from the British West Indies have fallen off within the same time from about 3,000,000 lbs. to only 1,500,000; the cultivation of cotton having been almost entirely abandoned by the planters, owing to the cheaper rate at which it can now be procured in India and the United States.

It would not be surprising if the distinguishing qualities of cotton-wool in the estimation of the manufacturer. The quality depends on the length, strength, and fineness of the fibre, as called in the trade, the staple; but these, which are the essential attributes of quality, are also influenced by the cleanliness and the colour. The different denominations of cotton-wool vary in quality from each other in these particulars, and the value is estimated accordingly. In the same denomination there is also a considerable difference in quality. In Sea-land cotton, which is the most valuable, this difference is great, the very finest of this class, in ordinary states of the market, is worth three times as much as the common of the same class. The variation of quality in most of the other denominations is from 20 per cent., and in some of them is more than 50 per cent. Formerly, the usual distinction of cotton was by reference to the colour, "yellow" and "white." But now, the modes and processes of manufacturing have rendered colour of less importance than of the broad distinction is therefore into "long-stapled" and "short-stapled." The long-stapled cottons are Sea-lands, Brazil of every kind, Demerara, West Indian, and the short-stapled cottons include such parts of the products of North America as are the interior of that country, and called Uplands, Orleans, Alabama, Mobile, &c., as

well as the East India cotton, Surat, Bengal, and Madras. Except the better quality of the islands, there is no sort of cotton which is now confined in its use to any peculiar or exclusive purpose. By mixing different sorts together, and by careful management in preparing the mixture for the spinning, the manufacturers can now make a substitute for almost any particular kind of cotton, except the very best. It is only requisite to add, that the long-stapled cottons are generally used for the twist or warp, and the short-stapled for the weft." (*Baines' History of the Cotton Manufacture*.)

The relative value of the different kinds introduced into this country will be seen in the following list, extracted from the Liverpool Price-current of 11th March 1841:—

	d.	d.		d.	d.
Sea-Island.....	14	to 30	Pomeroon.....	6	to 12
..... stained.....	6	— 12	West India.....	6	— 11
Raw Georgia.....	6	— 7½	Peruvia.....	6	— ..
Mobile.....	6	— 7½	La Guayra.....	7	— 7½
Texas.....	8½	— ..	Carthagena.....	4½	— 5½
New Orleans.....	6	— 6½	Smyrna.....	4½	— ..
Perambuco.....	8½	— 9½	Egyptian.....	6½	— 12
India.....	8	— 9	Surat.....	4½	— 11
Madras.....	7½	— 8½	Medina.....	—	— ..
..... new-ginned.....	7	— 7½	Bengal.....	4½	— ..

The expense of bringing cotton to this country from New Orleans and Mobile is about ½d. per lb., and from the Atlantic States, ¼d. to ½d. per lb. The American planters frequently consign it for sale on their own account, but the greater part is sent by mercantile houses. About nine-tenths of the whole imports to this country are brought to Liverpool, where it is sold by brokers, who charge 10s. per £100 for their trouble. The same commission is demanded by the brokers employed to purchase for the spinners or dealers. The sales are made by sample, and owing to the strict probity of the brokers, they are conducted with unparalleled facility and despatch; and though not made with the formalities necessary to render the bargain legally binding, yet a difficulty in their fulfilment is almost unknown. Any misunderstandings which do occur are promptly and satisfactorily settled, by a reference to some neutral broker. The credit allowed is 10 days, at the end of which time the usage is to give a banker's bill payable in two months.

STATEMENT showing the Number of Bags and Bales of Cotton Imported, Exported, taken for Consumption, and the Stock on hand in London, Liverpool, and Glasgow, each Year, from 1830 to 1841, both inclusive.*

Year.	Imported.	Exported and consumed by Foreign B.	Taken for Consumption.	Stock on 1st January in each Year			
	Bags.	Bags.	Bags.	In London.	In Liverpool.	In Glasgow.	Total.
1830.....	87,173	35,185	806,250	77,470	243,220	6,582	327,272
1831.....	90,174	61,626	892,315	47,852	258,111	21,268	327,231
1832.....	102,240	63,100	859,434	77,381	272,350	26,275	376,006
1833.....	92,178	79,496	877,560	34,108	197,980	13,666	245,754
1834.....	106,305	90,383	863,790	35,243	180,780	9,127	225,150
1835.....	149,349	147,840	1077,616	26,246	145,311	12,363	184,920
1836.....	111,744	144,853	1,031,504	24,470	186,700	20,643	231,813
1837.....	112,139	129,535	1,094,931	61,820	204,180	22,300	288,300
1838.....	1,421,062	149,370	1,265,116	64,120	170,853	24,370	259,343
1839.....	1,101,520	121,650	1,145,511	46,400	248,348	26,300	321,048
1840.....	1,502,343	126,043	1,274,729	31,640	205,069	27,700	264,409
1841.....				30,620	306,140	47,948	484,708

The import duty on cotton wool (exclusive of the late addition of 5 per cent.) is 2s. 11d. per cwt.; but if the produce of, and imported from, any British possession, only 4d. per cwt. This duty, in the year 1840, amounted to £650,000.

COTTON MANUFACTURE. The birthplace of this branch of industry is India, where it probably flourished long before the date of authentic history. In China, throughout which the manufacture is also very generally diffused, it is not supposed to have existed before the beginning of the sixth century of the Christian era. In the tenth century, the cotton plant is stated by Mr Baines to have been extensively cultivated, and its produce woven into cloth by the Mohammedan possessors of Spain, where, and especially at Barcelona, the manufacture long flourished. At a later period (probably about the close of the 15th century) it was introduced into Italy, then the channel through which the fabrics of India

* In "Bain's Commercial Glossary," from which the preceding table is extracted, the gross weight of the bags or bales of cotton is given as follows:—American, 373 lbs.; Brazil, 371 lbs.; Egyptian, 291 lbs.; East India, 363 lbs.; West India, 316 lbs.; and of the whole consumed in this country, 348 lbs.

were distributed to the rest of Europe. The wool consumed by the Italian manufactures is supposed to have been obtained from the southern shores of the Mediterranean, in most of the countries bordering on which, cotton is known to have been cultivated and converted into clothing in the beginning of the 16th century, and probably before. From Italy the manufacture found its way into the Netherlands, from whence it is supposed to have been brought to England by protestant refugees after the capture and ruin of Antwerp by the Duke of Parma in 1585.

It is unnecessary, and would indeed be difficult, to trace the introduction and history of the manufacture into the other parts of Europe where it is now established; but its growth has, in every case, been subsequent and greatly inferior in extent to its progress in England, though even here it was long unimportant. In 1641, Roberts mentions, in his "Treasure of Traffic," that at Manchester "they buy cotton wool in London that comes first from Cyprus and Smyrna, and at home work the same and perfect it into fustians, vermillions, dimities, and other such stuffs, and then return it to London, where the same is vented and sold, and not seldom sent into foreign parts, who have means, at far easier terms, to provide themselves of the said first materials." But the cotton manufacture made very slow progress in this island for more than a hundred years after the time when Roberts wrote. At the commencement of the last century, the importation of cotton-wool into the kingdom scarcely exceeded 2,000,000 lbs. annually, and of this quantity a large portion was used for candlewicks, a purpose to which it had been long applied in this country. Even down to 1760 the manufacture, if it deserved that name, was mostly carried on by weavers scattered over the country in cottages, who purchased what wool they wanted, each on his own account, got it spun into thread by their wives and children, and plied their looms only during part of the day, the rest of which was spent in digging their gardens.

From the year 1760 we may date those improvements which have given to England the appellation of "the second birthplace of the cotton manufacture." The system was then begun by the Manchester merchants of distributing supplies of wool among the weavers by means of agents, who travelled over the country for that purpose at stated times. About that time also the *fly-shuttle* (invented by John Ray of Bury in 1738) was generally introduced into the cotton manufacture; while his son Robert in the same year invented the *drop-box*. These inventions placed the operation of weaving in advance of that of spinning,—a process which until now had been performed by the distaff, or one-thread wheel, and the supply of yarn became more and more inadequate every day. At length in 1767, James Hargreaves, an illiterate but ingenious mechanic, invented the *spinning-jenny*, a contrivance which was speedily followed by the greatly more important one of *spinning by rollers* by the *water-frame*, or *throstle*, for which a patent was taken out in 1769 by Richard (afterwards Sir Richard) Arkwright,* a hairdresser, and which, from that time, communicated altogether a new character to the manufacture.

Hitherto no goods entirely composed of cotton had been made in England. In what were called cotton cloths, it was only the weft or transverse thread that was of cotton; the warp, or longitudinal thread was always of linen yarn,—it not having been found possible to spin the cotton into thread sufficiently strong and hard for the latter purpose. But the yarn spun by Arkwright's machinery being strong enough to serve for warp as well as woof, cloth was now woven entirely of cotton. This important innovation was introduced in 1773, and the greater cheapness of production encouraged the consumption of the article both at home and abroad. In 1785, after a tedious lawsuit, Arkwright's patent was annulled, and the invention of the water-frame being thus thrown open, a great increase in the number of factories took place. After this event, also, the *mule-jenny*, a combination of Hargreaves' spinning-jenny and Arkwright's water-frame, which had been some years before (1779) invented by Samuel Crompton of Bolton, came into general use: it is only by the mule that cotton-thread of the finest qualities can be spun.

The first steam-engine for a cotton-mill was made by Mr Watt in the year 1785.

* Mr Baines has satisfactorily established that the merit of this discovery, though claimed by Arkwright, truly belongs to John Wyatt of Birmingham, who made it the subject of a patent so early as 1738; but wanting the means to realize his success, the invention slumbered till it was either re-discovered, or what is more probable, till its principles came accidentally to the knowledge of Arkwright, who appreciated its value, and whose perseverance, talent, and good fortune enabled him by its means to enrich himself and his country. The invention was also claimed by Thomas Highs of Leigh.

But at this time the application of the improved machinery was confined to the production of yarn ; and as formerly the difficulty had been to find thread enough to feed the looms, so now it seems to have been apprehended that it would be impossible to find a sufficient number of weavers to work the thread that was spun. This great desideratum was, however, supplied by Dr Cartwright, who invented the *power-loom*. This invention took place as early as 1785, but no practical application of it was made until 1801; nor was it until several years afterwards that the difficulties attendant upon its first employment were overcome. These inventions were followed by that of the *dressing-machine*, of the *cylinder printing-machine*, and of *mechanical engraving*, and by the discovery of the various and beautiful processes of *calico-printing*, and of important improvements in the art of *bleaching*. More recently the process of spinning has been further facilitated by the *self-acting-mule* of Mr Roberts. The combined effect of these splendid inventions and discoveries has been, as is well known, the progression of the manufacture with gigantic strides, until it now composes nearly the one-half of our external trade, and affords subsistence to a portion of our population exceeding in amount that of several of the continental kingdoms.

The different processes through which the cotton passes, in its conversion into cloth, all of which are performed in many of the large spinning and weaving mills, are briefly described by Mr Baines as follows :—

“ The cotton is brought to the mill in bags, just as it is received from America, Egypt, or India, and is then stowed in warehouses, being arranged according to the countries from which it may have come. It is passed through the *willow*, the *scutching-machine*, and the *spreading-machine*, in order to be opened, cleaned, and evenly spread. By the *carding-engine*, the fibres are combed out, and laid parallel to each other, and the fleece is compressed into a sliver. The sliver is repeatedly drawn and doubled in the *drawing-frame*, more perfectly to straighten the fibres, and to equalise the grist. The *roving-frame*, by rollers and spindles, produces a coarse and loose thread ; which the *mule* or *throstle* spins into yarn. To make the warp, the twist is transferred from cops to bobbins by the *winding-machine*, and from the bobbins, at the *warping-mill*, to a cylindrical beam. This beam being taken to the *dressing-machine*, the warp is sized, dressed, and wound upon the weaving-beam. The latter is then placed in the *power-loom*, by which machine, the shuttle being provided with cops of weft, the cloth is woven.

“ Such, without entering too much into minutiae, are the processes by which the vegetable wool is converted into a woven fabric of great beauty and delicacy ; and it will be perceived that the operations are numerous, and every one of them is performed by machinery, without the help of human hands, except merely in transferring the material from one machine to another. It is by iron fingers, teeth, and wheels, moving with exhaustless energy and devouring speed, that the cotton is opened, cleaned, spread, carded, drawn, roved, spun, wound, warped, dressed, and woven. The various machines are proportioned to each other in regard to their capability of work, and they are so placed in the mill, as to allow the material to be carried from stage to stage with the least possible loss of time. All are moving at once,—the operations chasing each other; and all derive their motion from the mighty engine, which, firmly seated in the lower part of the building, and constantly fed with water and fuel, toils through the day with the strength perhaps of a hundred horses. Men, in the meanwhile, have merely to attend on this wonderful series of mechanism, to supply it with work, to oil its joints, and to check its slight and infrequent irregularities ; each workman performing, or rather superintending, as much work as could have been done by two or three hundred men sixty years ago. At the approach of darkness, the building is illuminated by jets of flame, whose brilliance mimics the light of day, the produce of an invisible vapour, generated on the spot. When it is remembered that all these inventions have been made within the last seventy years, it must be acknowledged that the cotton-mill presents the most striking example of the dominion obtained by human science over the powers of nature, of which modern times can boast.”—(*History of the Cotton Manufacture*, p. 242.)

The principal and original seat of the British cotton manufacture is Manchester, including the district lying within from thirty to fifty miles around it, which is more important for the quantity, variety, and excellence of its productions than all the others together. The departments of spinning, manufacturing, bleaching, and printing, are all here carried to the highest perfection. The Manchester mills supply the finest yarns ; and almost every description of cotton goods, except lace and hosiery, is made in Lancashire. Besides Manchester, four other great districts are distinguished by their cotton manufactures, namely, 1st, Glasgow, and the country around it, extending to Perth and Aberdeen ; 2d, Nottingham, including Derby, Warwick, and Lichfield ; 3d, Carlisle, branching out so as nearly to meet the Manchester and Scottish divisions ; 4th, The counties of Antrim, Armagh, Dublin, and Kildare, in Ireland. The Glasgow district is chiefly celebrated for muslins and bandanas ; the Nottingham, for lace and cotton hosiery. [LACE. HOSE.] Calico printing is carried on chiefly in the neighbourhood of Manchester, in the valleys between Blackburn, Clitheroe, and Bury, and in the vicinity of Glasgow, Dublin, and London. The principal bleaching works are in the neighbourhood of Bolton, Blackburn, Manchester, and Glasgow.

The following tables exhibit the course and progress of our export trade in

and the quantities of the different descriptions of these goods which come to shipment at different periods.

of the Declared Value of Cotton Manufactures, and of Cotton Twist and Yarn, exported to different Countries in the Years 1820, 1830, and 1838.

	1820.		1830.		1838.	
	Manufactures.	Twist and Yarn.	Manufactures.	Twist and Yarn.	Manufactures.	Twist and Yarn.
	£	£	£	£	£	£
.....	702,125	1,094,305	155,975	1,087,868	64,765	1,236,554
.....	203,554	7,498	52	3,370	38	1,275
.....	2,763,308	1,404,519	1,478,570	1,448,521	1,068,047	2,264,330
.....	979,581	55,351	646,589	512,235	634,041	1,864,825
.....	1,221	.....	10,001	301	172,026	11,740
Azores, & Madeira	792,825	13,401	630,111	14,276	744,912	27,606
Malta, & the Ionian Islands	140,010	1,160	220,006	796	34,459	125
.....	537,836	11,104	145,404	1,044	600,908	7,673
Italian Islands	1,335,831	128,919	1,758,225	433,754	1,779,089	626,503
.....	175,365	10,794	74,339	19,295	90,574	21,042
.....	352,294	61,222	761,759	80,148	1,321,069	205,314
.....	.....	.....	71,804	8,945	180,000	14,504
States	.....	.....	.....	.....	50,930	.....
East of Africa	28,502	8	90,271	54	187,377	226
Good Hope	69,673	.....	122,245	1,206	206,034	584
.....	.....	.....	67,945	7	109,985	.....
Indes and Ceylon	.....	.....	.....	.....	1,805,449	640,208
.....	220,222	24	1,562,574	233,226	522,857	217,047
Mantra, Biam, &c.	.....	.....	114,409	2,040	377,020	27,952
.....	19,749	78	45,767	848	194,487	742
America	175,884	1,322	275,207	8,809	402,972	14,824
West Indies	1,079,687	548	645,768	690	969,674	3,609
West Indies	451,722	170	541,804	.....	670,643	426
Malta	1,124,305	226	2,365,165	3,559	1,470,919	5,342
.....	.....	.....	600,545	32,096	267,434	15,707
America	454,210	548	145,643	90	104,990	90
.....	204,080	.....	1,415,167	680	1,657,702	1,460
La Plata	.....	.....	344,310	587	486,823	1,470
.....	.....	.....	372,610	.....	272,022	291
.....	.....	.....	233,650	.....	231,679	1,600
Islands	74,252	180	81,128	2,128	63,511	152
.....	22,503	25,245	108,819	20,661	85,450	69,946
Total	13,090,100	2,135,639	15,294,923	4,133,741	16,715,857	7,431,869

of the Quantity and Declared Value of British Cotton Manufactured and Exported from the United Kingdom, distinguishing the descriptions of the same in various Years since 1820.

	1820.	1825.	1830.	1835.	1838.
Plain cottons	yards... 113,692,486	158,050,706	244,700,032	277,704,625	363,357,845
	value... £ 5,451,094	6,027,892	6,562,397	6,910,506	7,223,831
Dyed cottons	yards... 134,698,144	178,426,912	199,799,466	279,811,176	396,719,777
	value... £ 7,742,505	8,905,117	7,567,373	8,270,925	8,260,908
and small wares	value... £ 496,580	919,787	1,175,133	1,240,284	1,161,124
Yarn	pounds... 23,039,325	32,641,604	64,645,342	83,214,190	114,508,002
	value... £ 2,826,639	3,216,729	4,133,741	5,705,569	7,431,869
Total declared value	£ 16,516,748	18,339,528	19,439,654	22,128,304	24,147,732

As the first and last years in this table are compared, it will be seen, that while the number of yards exported in 1838 is greater by 178 per cent. than the number exported in 1820, the increase in the declared value has been scarcely 18 per cent.; the average price a-yard, which in 1820 was 12½d., having fallen in 1838 to 5½d. The quantity of twist exported has increased in the same period 398 per cent., but the increase in the declared value is not more than 163 per cent. The average price of twist, in 1820, was 2s. 5½d., and in 1838, only 1s. 3½d. a-pound. We are thus enabled to form some judgment as to the economy which has been introduced into the process of manufacture between 1820 and 1838, and are, besides, able to appraise the progress which appertains to the spinning and to the weaving branches respectively, what may reasonably be supposed, that the average qualities of

cloths and twist should have been the same at both periods. The diminution of value in the twist amounts to $47\frac{1}{2}$ per cent., and in the cloth to $55\frac{1}{2}$ per cent.: hence, by far the greater part of the saving occurs in the spinning processes,—a circumstance which may in part account for the greater proportionate increase in the exportation of twist and yarn.

In Mr Baines' work, an account is given of the extent and value of the British cotton manufacture in 1833, of which the following is an abstract :—

Cotton-wool imported, 303,656,837 lbs.; consumed in the manufacture, 282,675,900 lbs. Yarn spun (deducting $1\frac{1}{2}$ oz. per lb. for loss), 256,174,400 lbs.; number of hanks spun (averaging 40 to the lb.), 10,246,976,000; length of yarn spun (840 yards to the hank), 4,890,602,182 miles.*

Value of the cotton-wool consumed, at 7d. per lb. £8,244,693; value of manufactures consumed at home, £12,879,693; and of exports, £18,459,000; making total annual value of the manufacture, £31,338,693. Capital employed in the manufacture, £34,000,000.

Number of persons supported by the manufacture, 1,500,000. Operatives in the spinning and weaving factories in England, 900,000; in Scotland, 32,000; in Ireland, 5000; total, 237,000. Hand-loom weavers, 250,000. Wages earned by the factory operatives, £6,044,000; by the hand-loom weavers, £4,375,000.

Power, moved by the factories, 33,000 horses; water, 11,000 do; total, 44,000 horse-power. Number of spindles, 9,333,000; number of power-looms, 100,000.

In 1840, the quantity of cotton-wool entered for home consumption was 531,197,559 lbs., being an increase of 81 per cent. beyond the amount in 1833, when the foregoing estimates were formed; and the value of the exports had increased to £24,661,179 (of which £7,099,468 was composed of yarn and twist), being an augmentation of $33\frac{1}{2}$ per cent. since 1833. At the present time, therefore, we may fairly estimate the annual value of the manufacture as being at least £40,000,000, and the capital invested in it at nearly the same. This last estimate of the capital is much less than what the above proportions would indicate, having been made on the assumption that, though a considerable increase must have taken place on the fixed capital on buildings, and machinery, since 1833, it is probable no great addition has been made on the floating capital, as, owing to quicker returns, the same amount now suffices for the transaction of a larger amount of business.

The foreign countries in which the cotton manufacture is chiefly prosecuted will be seen from the account given in last article of the production and distribution of the raw material. It exists on a considerable scale in the New England states of America, and in France, in each of which the produce of the manufacture may be estimated at nearly one-fourth that of Great Britain. It is also advancing in Saxony, Prussia, Switzerland, and Lombardy. The Americans, from their proximity to the cotton-growing districts, possess an advantage in those articles where the value of raw material exceeds that of the workmanship; and in Germany and France perhaps a superiority exists in some descriptions of hosiery and yarns; but in a general point of view, England commands a superiority over all the nations of the world in regard to the cotton manufacture; and in other countries this branch of industry is only maintained under a system of protection.

In no way is the superiority of the British manufacture more strikingly shown than in the extent of the triumph it has gained over the cotton fabrics of India, formerly reckoned so beautiful and cheap, that nearly all the governments of Europe thought it necessary to prohibit them, or to load them with heavy duties, in order to protect their own manufactures. Now, however, the British manufacturer brings the cotton of India from a distance of 12,000 miles, commits it to his spinning-jennies and power-looms, carries back their products to the East, making them again to travel 12,000 miles; and, in spite of the loss of time, and of the enormous expense incurred by this voyage of 24,000 miles, the cotton manufactured by his machinery becomes less costly than the cotton of India spun and woven by the hand near the field that produced it, and sold at the nearest market.

A duty of 10 per cent. is imposed on foreign cottons, and of 20 per cent. on made-up articles. Partly from this cause, but mainly from the superiority of the British manufacture, the importations are comparatively trifling, chiefly consisting of Indian piece goods, with hosiery, yarn, and other articles from Germany and France.

COUPONS (Fr.), warrants for payment of the periodical dividends on public stocks, a number of which, being appended to the bonds, are severally cut off for presentation as the dividends fall due. The practice of appending coupons to bonds prevails chiefly in reference to foreign stocks.

COVADO, a Portuguese cloth measure equal $26\frac{1}{2}$ Imperial inches.

* In cotton yarn measure, a thread = 54 inches; a skein or rap of 80 threads = 120 yards; a hank of 7 skeins = 840 yards; a spindle of 18 hanks = 15,120 yards.

ID, an Oriental cloth measure. In China it is equal to $14\frac{3}{4}$ Imperial inches; bay, to 18; in Madras, to $18\frac{1}{2}$; and in Malacca, to $18\frac{1}{4}$.

ITCH, or **COWHAGE**, an article of the *materia medica*, consists of the growing upon the pods of different species of *Mucuna*, a large twining plant in India and other tropical countries, in hedges, thickets, and about water. They are slender, brittle, easily detached, and readily stick into the skin, produce an intolerable itching. Cowitch is used as a vermifuge, by being mixed with syrup till of the consistence of honey. Before the pods are ripe, and are hardened, they are employed as a vegetable like kidney-beans, and are very delicious.

RIES (Por. *Bucios simbos*), small, white, glossy shells (*Cyprea moneta*), in abundance on the shores of the Maldivé and Laccadive islands. They are in India and in some parts of Africa as a minor currency. In Calcutta they are employed in *Kauchau* accounts, the method used in small bazaars by the natives, reckoning 4 cowries = 1 gunda; 20 gundas = 1 pun; 4 puns = 1 anna; 16 annas = 1 cahun. The value of the cahun fluctuates according to the abundance or scarcity of cowries, but it is commonly equal to about a quarter of a rupee; rate, 5120 cowries = 1 rupee.

B, a crustaceous animal (*Cancer pagurus*, Linn.) common on the rocky shores of Britain and Western Europe. Crabs are brought to market both in a raw and in a cooked state. If the distance be great, they are placed in a well-box, and attached to the outside of the fishing vessel; and in this manner they are sent to London even from Norway and other remote parts. The animal is so hardy of life, that it does not lose its vital powers until two or three days after being taken from the sea. May, June, and July are the months in which it is generally out of the water.

The male is of greater value than the female, and has larger claws. Before a good crab is known by the roughness of its shell, particularly on the claws. When boiled, its quality is known by holding the claws tight, and shaking the body, which will rattle or seem as if water were in the inside, if it be not in perfection.

B, a tree, the common kind of which (*Pyrus malus*) is found native in several parts of the United Kingdom, particularly on the eastern slopes of the Welsh mountains. Its timber is compact, and answers well for turning, and for the larger parts of machinery. On a rich soil, the tree yields a small kind of apple, the juice of which, previous to the introduction of the modern methods of extracting vegetable acids, was in request under the name of *verjuice*. Such apples are now only used for feeding hogs.

NAGE, a common port-charge for the use of a crane by which goods are hoisted out of a ship.

NBERRY, the fruit of a slender trailing kind of shrub, of which there are several species. The English or Russian cranberry (*Oxycoccus palustris*), common in several parts of Norfolk, Lincoln, Scotland, and other parts, is a round, austere, red fruit about the size of a common currant: the American cranberry (*O. macrocarpus*) resembles the other, but is larger, has a more medicinal taste, and is considered of inferior quality; it is imported in considerable quantity from the United States.

Cranberries are much used by the pastry-cook for making tarts and some kinds of marmalade.

PE (Fr. *Crêpe*. Ger. *Flohr*. It. *Espumilla*. Por. *Sendal*. Sp. *Crespon*), a soft and transparent silken fabric, made with hard silk of the natural colour, the warp being usually composed of singles, the shoot frequently of the same material, but sometimes when a closer texture is required, of two-thread tram. The peculiar appearance of this article is given to it in the operations of dyeing and finishing after it is woven; and "different manufacturers affect a degree of mystery with regard to their peculiar modes of dressing crape, possessing or imagining some superiority over their rivals in the manufacture" (*Lardner's Silk Manufacture*). Crape is generally dyed black, and, from its sombre appearance, has long been considered as adapted to mourning vestments. The manufacture is carried on in various parts of Norfolk, Suffolk, Essex, Somerset, and at Painswick in Gloucestershire, but it has of late years decreased. [SILK MANUFACTURE.]

W-FISH, a long-tailed crustaceous animal (*Astacus fluviatilis*) of the kind, found in the fresh waters of Europe and the north of Asia. It thrives in rivers, and is commonly taken by nets or bundles of thorns in which flesh is placed in a state of decomposition.

YONS, a material for drawing, are of two kinds,—native and artificial. The former is generally of a black, white, or red colour. The best black is a fine earth of earth brought from Italy, of a bright even tint, and of a smooth and

moderately hard texture. The best white is a kind of chalk, and is procured in France ; it is of a brilliant colour, but very brittle. Pipe-clay is sometimes employed as a substitute, though of an inferior tint. Red crayon is a clayey ochreous kind of chalk. The artificial crayons are composed of earths of different colours, and other pigments, rolled into sticks with some tenacious substance, such as milk or beer-wort.

CREAM OF TARTAR. [TARTAR.]

CREASOTE. [KREASOTE.]

CREDIT may be defined to be that confidence which subsists among commercial men in regard to their mercantile affairs. This confidence operates in various ways. It disposes them to lend money to each other; to bring themselves under various pecuniary engagements by the acceptance and indorsement of bills; and also to sell and deliver goods in consideration of an equivalent promised to be given at a subsequent period. In a society in which law and the sense of moral duty are weak, and property is consequently insecure, there will of course be little confidence or credit, and there will also be little commerce.

"The day," says Mr Thornton, "on which it suits the British merchant to purchase and send away a large quantity of goods, may not be that on which he finds it convenient to pay for them. If it is made necessary for him to give ready money in return, he must always have in his hands a very large stock of money; and for the expense of keeping this fund (an expense consisting chiefly in the loss of interest) he must be repaid in the price of the commodities in which he deals. He avoids this charge, and also obtains time for preparing and adjusting his pecuniary concerns, by buying on credit; that is to say, by paying for his goods not by money, but by the delivery of a note, in which he promises the money on a future day. He is thus set more at liberty in his speculations; his judgment as to the propriety of buying or not buying, or of selling or not selling, and also as to the time of doing either, may be more freely exercised.

"But the custom of taking and of giving long credit has its inconveniences as well as its advantages. It increases the amount of the bad debts incurred in the course of commercial transactions. The apprehension of loss is therefore continually operating on the mind of the lender as a restraint on the custom of giving credit, while the compensation he receives for the use of the capital which he supplies acts as an encouragement to the practice. The subsisting state of credit may in general be considered as resulting out of a comparison made both by lenders and borrowers, of the advantages and disadvantages which each discover that they derive from giving and taking credit. Mercantile confidence, however, is not always dealt out in that proportion in which there is reasonable ground for it. At some periods it has risen to a most unwarrantable height, and has given occasion to the most extravagant and hurtful speculations.—Evils of this kind, however, have a tendency to correct themselves. In a country possessed of commercial knowledge and experience, confidence, in most instances, will not be misplaced.

"Some persons are of opinion, that when the custom of buying on credit is pushed very far, and a great quantity of individual dealings is in consequence carried on by persons having comparatively little property, the national commerce is to be considered as unsupported by a proper capital; and that a nation, under such circumstances, whatever may be its ostensible riches, exhibits the delusive appearance of wealth. It must however be remembered, that the practice of buying on credit, in the internal commerce of the country, supposes the habit of selling on credit also to subsist, and to prevail, on the whole, in an exactly equal degree. In respect to the foreign trade of a country, the practice of dealing on credit indicates poverty or riches, in proportion as the credit generally taken is longer or shorter than the credit given." (*Essay on Paper Credit*, p. 15-19.)

Credit, though of itself it can add nothing to capital, yet is thus often the invigorating influence that aids the processes by which it is fed. Capital might sometimes be frost-bound and stagnant, did not credit, as it were, lend the heat to thaw it, and set it flowing. Supposing all credit to be prohibited, every capitalist who may be incapable of employing his money successfully, will either not invest it, or if he does, he will lose it; while those who have no capital, but are possessed of skill and capacity for its profitable management, are deprived of all opportunity of exercising the talent and activity with which they are endowed,—at least in the manner in which they might be most efficiently exercised. In both ways are inflicted private injury as well as public loss. But under a law permitting and protecting credit, the capital in the community is brought into combination with the skill of the community, and the result is the most productive application of both.

se observations, however, must be understood as having reference to that of credit which is conducted upon fixed principles, and which prevails usually among persons in business, and not to that irregular description of which frequently takes place betwixt the retailer and the consumer. This is a great social evil. It is opposed to habits of frugality and prudence, and the branches of business has led to such flagrant abuses as in the opinion of some justify the interference of the legislature. In a well-written pamphlet by Mr Rosser, solicitor, titled, "Credit Pernicious," and which produced a considerable sensation, the proposition was brought forward, "That in a great variety of cases, simple contract debts between 40s. and £100 shall not be recoverable by law or process whatsoever." Mr Rosser's proposed regulations, however, are not in clearness; and the exception which he would make of debts below 40s. would of itself open boundless facilities for escaping from the general rule. A much better plan has been advanced by Mr M'Culloch (*Dictionary*, art. Credit), namely, to allow all actions for debts under a given sum, as £50, or £100, with the exception of claims for wages, or for labour done under executory contracts. This would be at least a simple and precise regulation, and one which would rarely be of being evaded. But notwithstanding the eminent authority on which this regulation is recommended, we doubt its expediency. Admitting to the full extent the evils that have been alleged to attach to the existing system of unrestricted credit, and the right of society to refuse its recognition of any compacts between individuals, which shall be deemed to be in their general nature injurious,—we think public opinion would scarcely tolerate some of the results, outraging the sense of natural justice, which the working of the proposed law would produce. If, we apprehend, that instead of generally putting down the present practice of buying and selling on credit, such a law would only aggravate its worst evils. In principle it would be very nearly the same with that of the usury laws, which, in many cases, refuses to recognise loans of money where the rate of interest is more than five per cent. The effect would be, that the premium paid by the borrower for the accommodation which he sought would be raised. Improvident persons would not be kept out of tradesmen's books; they would only be more severely fleeced.

The only proper remedy for the evils of the credit system, we believe, is to be effected not by altogether depriving the creditor of his right to recover his debt, but by restricting the exercise of that right to its legitimate object. On the principle that the law should do as much as it can to uphold the dignity of human nature, we would abolish altogether imprisonment for debt, and keep that infliction exclusively for its proper use—the punishment of crime. We would consider the creditor as having no claim against the debtor himself, but only against his property.

Upon the same views, we would protect likewise so much of the debtor's property as should be evidently necessary to enable him to obtain a subsistence for himself and his family. The workman's tools should certainly be exempt from seizure, and also the more indispensable articles of his household furniture. By such changes, we would mitigate whatever is unnecessarily harsh in the provisions of the law; but we should look to other influences rather than to any that legislation can exert, for the correction of mere habits of improvidence, and the protection of individuals from the inconveniences naturally consequent upon their own voluntary acts.

These views have, to a certain extent, been lately carried into practical operation in England by the act 1 & 2 Vict. c. 110, of which an account is given under the head **INSOLVENCY**, and in Scotland by the 5 & 6 Wm. IV. c. 70, § 1, which enacts that no person shall be imprisoned for a debt not exceeding £8, 6s. 8d., or the interest and expenses. From the prevailing state of public opinion, no doubt can be entertained that these laws will ere long be followed by others of more comprehensive character. [**ACCOMMODATION. BANK. FUNDS. MONEY.**]

ETE. [**CANDIA.**]

EW. [**MASTER. SEAMAN.**]

OCUS. [**COLCOTHAR.**]

DRE, in Hindoo numeration, signifies ten millions. It is used to express thousands of rupees; and as each lac is 100,000 rupees, or nearly £10,000, the crore is at £1,000,000 sterling.

OTON, a plant used in medicine, and of which there are two kinds: 1st, The *stigium*, a native of India, the seeds of which are about the size of a small pea, of a convex shape on one side, and bluntly angular on the other, and encased in a thin shell. These seeds are the most powerful purgative known.

"Five hundred doses may be contained in a small wafer box." In this country the medicine is used in the form of an oil expressed from the seeds. 2d, The *Croton cascarilla*, the bark of which finds a place in *materia medica*: it is imported from the Bahamas, either in curled pieces, or rolled up into short quills; is brownish, resinous, and shining, with a weak aromatic smell, and a bitter taste.

CROWN, a silver coin in Great Britain and other countries. On the Continent it is known under the various names of couronne, ecu, patagon, and scudo.

CRUSADO, the name given to two Portuguese coins: the old crusado, or crusado of exchange of 400 reis, and the new crusado of 480 reis. [PORTUGAL]

CUBA, a noble West India island and Spanish colony, situated at the entrance into the Gulf of Mexico, between long. 74° 11' and 84° 58' W., and lat. 19° 47' and 23° 9' N. Area about 43,000 square miles, being nearly equal to all the other islands together. Population about 900,000, of whom, from one-third to one-half are whites, nearly one-third slaves, and the remainder free people of colour. By the former Spanish constitution, Cuba and Porto Rico, being integral parts of the monarchy, were governed like the provinces of Old Spain: they are now under the charge of a captain-general, who resides at Havana, the capital.

A chain of hills runs through the centre of the island from E. to W., from which the land gradually inclines on both sides towards the coast. The country is broken into hill and valley, and plains. The sides of the hills are in some situations cultivated, and are generally fertile; but the soil is liable to be washed off by heavy rains. The valleys and plains compose nearly four-fifths of the island, and are extremely productive, being in this respect unequalled in the West Indies, except, perhaps, by some parts of Hayti and Guiana; only a very small extent, however, is under cultivation. There are very few rivers, and none large; and a great portion of the island is subject to severe droughts. This disadvantage is remedied in some places by diverting the course of the streams for the purpose of irrigation. The climate, although tropical, indicates a transition to that of the temperate zone. The mean temperature of the interior is 73°, and of Havana 77°. The mean annual heat of Havana, in July, the hottest month, is 84°; the mean of the coldest is 70°, and the depression of the thermometer to 55° is rare. The N. winds are sometimes violent; but hurricanes occur less frequently than in the other Antilles. The chief mineral product is copper, the mines of which, near Santiago, have of late years attracted considerable attention: several are worked by English and American companies, and a considerable quantity of ore is sent to Swansea, in Wales, to be smelted. [COPPER.] The leading objects of culture are sugar, coffee, and tobacco, which form the great staples of the island; a variety of other tropical commodities are produced, but not in large quantities. Maize, rice, beans, and a little wheat are raised, though not sufficient for the demand; also plantains, yuca, yams, and potatoes, which form the chief support of the coloured people and slaves. Immense tracts of land are used only as pasture; and the number of cattle is considerable.

The means of internal communication are very defective, and after rain the roads are quite impassable; but the island being of a long and narrow form, the planter is enabled to bring his produce to the sea without a long land-journey. Hence the activity of the coasting-trade, in which a prodigious number of small vessels are employed in conveying the produce to Havana, and the other ports of shipment. Of late years, several railways have been formed; the principal line (opened in 1838) being from Havana to Guines, a distance of 45 miles.

The commerce of the island has increased very rapidly within the last half-century, more especially since 1809, when the Spanish colonial system was relaxed, and the ports of the island opened to vessels of all nations. In 1837, the value of the exports amounted to \$20,346,407; the principal articles being—sugar, 9,060,053 arrobas, value, \$7,927,546; coffee, 2,133,567 arrobas; molasses, 114,976 hogsheads; cigars, 792,438 lbs., value, \$1,267,496; leaf tobacco, \$560,948; besides copper, rum, wax, mahogany, cedar, and other commodities of smaller value. To each of the quantities here specified about a fourth part may be added on account of clandestine exportations from the unlicensed ports. In the same year, the imports amounted to \$22,940,357, chiefly consisting of grain, flour, and provisions, from the United States, linens, cottons, wine, hardware, and a variety of other manufactured articles. The chief intercourse is with the United States, the imports from which amounted, in 1837, to \$6,546,955, while those from Great Britain did not exceed \$1,373,962. This preponderance of the States in the trade of Cuba arises from their furnishing a near and ready market for all the exports of the island, and from their being able to supply provisions in abundance. Spain, since the loss of her colonies on the mainland, endeavours to turn to greater advantage her possession of Cuba, and her trade ranks next, in point of extent, to that of the United States. The smaller share possessed by Great Britain is mainly attributable to her not admitting the productions of Cuba into her ports on the same terms as those of her own colonies.

The other states which participate most largely in the commerce of the island, are the former Spanish colonies, the Hanse Towns, and France; also Russia, to which considerable quantities of produce are exported.

The value of the imports we have noticed does not include negro slaves, of whom about 25,000 are annually brought into Cuba; and to the low price of labour thus induced is in part attributed the increased production which has lately taken place. This infamous traffic is said to be protected by the government for the purpose of retaining the island more securely under the dominion of Spain. By an ordinance of 12th March 1837, free coloured people are prohibited from even landing on its shores.

The number of vessels which annually enter the ports is about 2500, one-half of which are from the United States; about 740 Spanish; nearly 200 English; 50 French, and the same number from the Hanse Towns and the Netherlands, respectively.

Havana, the chief port and capital of Cuba, and one of the greatest commercial cities of the New World, stands on the N. W. side of the island, in 23° 9' N., 82° 22' W., on a promontory formed on one side by the open sea, and on the other by a large bay nearly 2½ miles in width;

pop. 130,000, of which nearly one-half reside without the walls. The entrance into the harbour is narrow and deep; and defended on the E. by the Moro Castle, and on the W. by Puntal. It opens into a secure and spacious basin, where there is sufficient depth of water for line-of-battle ships. About 1200 ships enter annually.

The chief other ports are, on the N. side of the island, Matanzas, and on the S. side Santiago-de-Cuba and Trinidad. Besides these, the following are licensed for foreign trade:—Puerto-Principe, Baracoa, Gibara, Cienfuegos, and Manzanillo.

MEASURES AND WEIGHTS, MONEY, DUTIES, &c.

Measures and Weights.—The standards of Spain are those generally in use. In trade the following proportions are commonly observed:—100 varas = 100 Imp. yards, or 1 vara = 33½ Imp. inches; the fanega = 3 Winchester, or 2·9 Imp. bushels; the arroba of wine or spirits = 4·1 English wine gallons, or 3·42 Imp. gallons; the quintal of 4 arrobas, each of 25 lbs. = 101½ lbs. avoirdupois, or 1 arroba = 25 lbs. 7 oz. avoirdupois.

Money.—Accounts are stated in dollars divided into 8 reals, each of 34 maravedis, which are converted by merchants at the fixed rate of \$444 or £100, or nearly 4s. 6d. per dollar; the variations of exchange being made by per centages upon the amounts in sterling. Bills on London are drawn at 60 days' sight; and the course of exchange fluctuates from about 6 to 20 per cent. premium: the quotation at Havana, Oct. 19, 1839, was "14½ per cent. premium," or £114, 6s., converted as above = bill on London for £100. At 8 per cent. premium the dollar = 4s. 2d. sterling.

The currency of the island consists of gold doubloons, dollars, and their aliquot parts. [DUBLIN. DOLLAR.] Paper money is unknown.

The Duties are mostly *ad valorem*, the valuations of the goods being as far as possible fixed by the tariff. On Spanish goods brought direct from the Peninsula, it is 6½ per cent.; but if brought in foreign vessels, 14½, and in some cases, 2½ per cent. On foreign goods from Spain in Spanish vessels, 10½ per cent., and in a few cases, 2½ per cent. On foreign goods imported from a foreign country in Spanish vessels, 14½ per cent., and in some cases 18½. On goods imported from a foreign country in a foreign vessel, 21½, and in some cases 27½ per cent. To these import duties there is always added a supplementary duty of

3 per cent., besides the *balanza* duty of 1 per cent. on the gross amount of the duties previously ascertained. The chief deviation from these *ad valorem* duties is in the case of flour, which if imported from a foreign country in a foreign vessel, is \$9½ per barrel, but if from a foreign country in a Spanish vessel, \$8½ per barrel; besides the *balanza* of 1 per cent.

The export duty on produce, if sent to Spain in a Spanish vessel, is 2½ per cent.; if to a foreign port in a Spanish vessel, 4½; and if in a foreign vessel to a foreign port, 6½ per cent. These export duties are exclusive of the *balanza* duty of 1 per cent. On sugar, the export duty is 3 reals per box, if shipped in a Spanish, and 4 reals if in a foreign vessel; on tobacco, in foreign vessels to a foreign port, 12½ per cent.; in Spanish vessels with a foreign destination, 6½; and in Spanish vessels to a Spanish port, 2½ per cent.; on the precious metals exported to a foreign port, gold, 1½, and silver 2½ per cent.

The Revenues of the island, on an average of the five years ending with 1837, amounted to \$8,948,561 per annum; of which the import and export duties formed 61 per cent., and the internal taxes, 22½ per cent.

A British Loan was raised in 1835 for the purpose of making the railroad between Havana and Guines. Its nominal capital is £450,450, which was issued at 91 per cent., in bonds for £100, £250, and £500 each, bearing 6 per cent. interest; and having 50 coupons for the dividends, which are due in London on 5th March and 5th September. It was agreed that a sinking fund should commence in 1839, in order to redeem the whole by 1860, either by purchase, or payment at par by drawing lots. This loan is secured upon the receipts of the railway, and the revenues of the Royal Commercial and Agricultural Society of Cuba.

Cuba was discovered by Columbus in 1493; and the first settlement was formed by the Spaniards in 1511. In 1762, Havana was taken by the British, but it was restored to Spain at the peace of 1763. The island derives great political importance from its position, which gives it a control over the trade between Europe and all countries lying round the Caribbean Sea and Gulf of Mexico; as vessels returning to Europe from Jamaica, or the coast of South America, are under the necessity of doubling Cabo San Antonio, and proceeding homeward by the Gulf Stream, in order to avoid the opposing force of that current, and of the trade-wind which they have to encounter in attempting a passage either by the Windward or Mona Passages, situated respectively at the W. and E. extremities of Hayti.

CUBEBS (Du. *Koebeben*. Fr. *Cubebes*. Ger. *Kubeben*. It. *Cubebi*. Por. *Co-bas*. Rus. *Kubebii*. Sp. *Cubebas*. Jav. *Kumukus*), a kind of pepper, composed of the dried pedicelled berries of the shrub *Piper cubeba*, a native of Java. They are about the size of black peppercorns, but somewhat wrinkled, and having a short slender stalk. Their colour is externally gray, their smell aromatic, and their taste warm and camphoraceous. Cubebs are imported into Europe from Batavia and Canton, and are used in medicine.

CUBIT, a measure of length, equal 18 inches, or ¼th of a fathom.

CUCUMBER, the cooling fruit of a well known annual (*Cucumis sativus*) of which several varieties are cultivated in this country, mostly in hothouses, the plant being a native of a warm climate. It is chiefly used with us as a salad or condiment; but in Egypt, Syria, and other eastern countries, where it is grown in fields, it forms a considerable part of the food of the lower classes, especially during summer; and its employment for this purpose is repeatedly noticed in Scripture.

WILD CUCUMBER, or **SQUIRTING-GOURD**, a perennial (*Momordica elaterium*), is a native of the S. of Europe. The fruit is oblong, about 1½ inch in length, and of a

lowing articles may be landed without report, entry, or warrant,—diamonds and bullion, fresh fish of British taking, and imported in British ships, turbot and lobsters, fresh, however taken or imported.

Manifest, § 3. No goods to be imported in any British ship, nor tobacco in any ship, unless the master have on board a manifest thereof, made out and dated and signed by him at the place of taking on board, and authenticated as herein after provided. Every manifest must set forth the name and tonnage of the ship, the name of the master and of the place to which the ship belongs, and of the place of loading and destination, respectively, and contain a particular account and description,—of all the packages on board, with marks and numbers, and the sorts of goods and different kinds of each sort contained therein (to the best of the master's knowledge) and of the particulars of such goods as are stowed loose, and the names of the respective shippers and consignees, as far as the same can be known to the master; and to such particular account shall be subjoined a general account or recapitulation of the total number of the packages of each sort, describing the same by their usual names, or by such descriptions as the same can best be known by, and the different goods therein, and also the total quantities of the different goods stowed loose. Every manifest for tobacco must be distinct from any manifest for other goods, and must contain the particular weight of tobacco in each hogshead, cask, chest, or case, with the tare. If the tobacco be the produce of the dominions of the Grand Seigneur, the number of the parcels within each hogshead, cask, or case, must be stated.

§ 4. Before any ship is cleared out from any British possession abroad, or from China, with any goods for the United Kingdom, the master must produce the manifest to the collector or comptroller, or other proper officer, who shall certify upon the same the date of production. In places within the possessions of the East India Company, the servant of the Company who delivers the last despatches, and in China the chief supercargo of the Company, is the proper officer for authenticating the manifest. [This provision will be affected by the alterations in the privileges of the Company by the act 3 & 4 Wm. IV. c. 85.]

§ 5. Before the departure of a ship from a place beyond the seas not under the British dominions, where tobacco has been taken on board for the United Kingdom, the master must produce the manifest to the British consul or other chief officer, if any such reside at or near the place, who must certify upon it the date of production.

§ 6. If the manifest is wanting, or if any goods contained in it be not on board, the master forfeits £100.

§ 7. The master of every ship required to have a manifest, must produce it to any officer of the customs who shall come on board after his arrival within four leagues of the coast, and who shall demand an inspection; and the master must deliver, to the officer who first demands it, a true copy of the manifest signed by himself; and must deliver another copy to any officer who may be the first to demand it within the limits of the port to which the ship is bound. The officers must notify on the manifest and copies the date of production of manifest and receipt of copies, and transmit the copies to the collector and comptroller of the port to which the vessel is first bound, and return the manifest to the master. A master failing to produce the manifest, or deliver the copy, forfeits £100.

Report, § 8. The master of every ship arriving, whether laden or in ballast, must, within twenty-four hours, and before bulk be broken, make re-

port of the ship, and subscribe a declaration to the truth of the same, before the collector or comptroller. The report must state the marks, numbers, and contents of all the parcels of goods on board and the particulars of goods stowed loose—to the best of his knowledge, and of the places where they were taken on board, and of the burden of the ship, and of the country where she was built, or, if British, of the port of registry, and of the country of the owners, and of the name and country of the master, and of the number of the navigators, stating how many are of the country to which the ship belongs, and how many of some other country. The report must further declare, whether and in what cases such ship has broken bulk in the course of her voyage, and what part of the cargo, if any, is intended for importation at the port, and what part, if any, for importation at another port, and what, if any, is prohibited except to be warehoused for exportation, and what, if any, is intended for exportation in such ship, and what surplus stores or stock remain on board, and, if a British ship, what foreign-made sails or cordage, not being standing or running rigging, are in use on board. The master failing to report, or making a false report, forfeits £100.

§ 9. The master of every vessel coming from Africa who has taken on board natives, must state in the report how many he has on board, under penalty of £100, and he or the owners must enter into bond to the extent of £100 to relieve parishes of any expense from such Africans, or be liable in a penalty of £200.

§ 10. If the master report contents of packages as unknown, they may be opened by the officers, and forfeited if prohibited, or charged with duty if importable for home use; unless in either case the commissioners, in consideration of the sort or quality of the goods, or the small rate of duty payable on them, see fit to deliver them for exportation.

§ 11. The master, at the time of making report, must deliver to the collector or comptroller the manifest of the cargo where a manifest is required, and, if required by the collector or comptroller, must produce any bill of lading, or a true copy, for any and every part of the cargo, and answer all questions relating to the ship and cargo, and crew and voyage; and in case of failure in these requisites, or falsehood in performance, or if any bill of lading uttered or produced have not been signed by him, or any such copy have not been received or made by him previously to his leaving the place where the goods were shipped, the master forfeits £100.

§ 12. If part of the cargo of any ship for which a manifest is required be reported for importation at some other port, the collector and comptroller of the port at which some part has been delivered, must notify such delivery on the manifest, and return the same.

§ 13. Every ship must come as quickly up to the proper place of mooring or unlading, as the nature of the port will admit, and without touching at any other place; and must in proceeding thither bring to at stations appointed by the commissioners for boarding by officers; and after arrival she must not remove except directly to some other proper place, and with the knowledge of the proper officer, on penalty of £100 by the master. The commissioners may appoint proper places for the mooring or unlading of ships importing tobacco, and where such ships only shall be moored or unladen; and in case the place so appointed be not within some dock surrounded with walls, if any ship, after having been discharged, remain there, or if any ship not importing tobacco be moored there, the master forfeits £20.

§ 14. The proper officers may board ships arriving, and remain on board until all the goods have been duly delivered; and such officers must have free access to every part of the ship, with power to fasten down hatchways, and to mark any goods before landing, and to lock up, seal, mark, or otherwise secure any goods on board; and if any place, or any box or chest, be locked, and the keys be withheld, such officers, if they be of a degree superior to tidemen or watermen, may open them in the best manner in their power: and if they be tidemen or watermen, or only of that degree, they must send for their superior, who may so open them. If goods be found concealed, they become forfeited; and if the officers place any lock, mark, or seal upon any goods on board, and they are wilfully opened, altered, or broken before due delivery, or if any of the goods be secretly conveyed away, or if the hatchways, after having been fastened down by the officer, be opened, the master forfeits £100.

§ 15. When government ships, British or foreign, have goods on board, the commanding officer must, before unloading, or when called on by an officer, deliver an account of quality and quantity, marks and numbers, and names of shippers and consignees, and subscribe declaration, and answer questions, &c., as above, under penalty of £100. Such ships are liable to such searches as merchant ships, and officers may enter them, and bring on shore into the Queen's warehouse goods found on board: subject to such regulations in respect of British ships of war, as may be directed by the Treasury.

§ 16. The master of every British ship returning from any British possessions in the West Indies, must, within ten days of arrival, deliver to the collector or comptroller a list of the names and descriptions of the crew on board at the time of clearing from the United Kingdom, and of the crew on board at the time of arrival in the West Indies, and of every seaman who has deserted or died during the voyage, with the amount of wages due at the time of death, and must subscribe a declaration at the foot of such list, to its truth. Every master omitting forfeits £50. The list is kept by the collector for the inspection of all interested.

Entry. § 17. Every importer must, within fourteen days after arrival, make perfect entry inwards, or entry by bill of sight, of the imported goods, and land the goods; and in default, officers may convey them to the Queen's warehouse. When the cargo of a ship has been discharged, with the exception only of a small quantity, the officers may convey such remaining goods, and may at any time convey small packages or parcels to the warehouse, although the fourteen days have not expired, to be kept waiting due entry during their remainder. If the duties on goods so conveyed to the Queen's warehouse be not paid within 3 months after the 14 days, with charges of removal and rent, they must be sold, and the produce applied, first to the payment of freight and charges, next of duties; the overplus, if any, going to the proprietor.

§ 18. The person entering goods inwards (whether for payment of duty, or to be warehoused upon the first perfect entry, or for payment of duty upon the goods being taken out of the warehouse, or whether such goods be free of duty), must deliver to the collector or comptroller a bill of entry, fairly written [or by 1 & 2 Vict. c. 113, § 3, printed or partly written and partly printed] in words at length, expressing the name of the ship, and of the master, and of the place whence the goods were brought, and the description and situation of the warehouse—if they are to be warehoused, and the name of the person in whose name they are to be entered, and their quantity and description, and the number and denomination of the

packages; and in the margin he must delineate the marks and numbers of such packages; and he must pay down any duties payable upon the goods. He must deliver at the same time two or more duplicates, as the case may require, in which sums and numbers may be expressed in figures. The particulars must be written and arranged in such form and manner, and the number of such duplicates must be such as the collector and comptroller may require; and the bill being duly signed by the collector and comptroller, and transmitted to the landing waiter, is his warrant for the landing or delivering.

§ 19. Every person making such entry without consent of the proprietor or consignee, for every offence forfeits £100; but the penalty does not extend to persons acting under the directions of the several dock companies, or other corporate bodies authorized by law to pass entries.

§ 20. No entry or warrant is valid, unless the particulars in the entry correspond with those in the report, and in the manifest, and the certificate or other document, where any is required, by which the importation or entry is authorized, nor unless the goods be properly described in the entry by the denominations, and with the characters and circumstances, according to which they are charged with duty, or may be imported, either for use or exportation; and goods not duly entered, removed from any ship or warehouse, or for the delivery of which, or for any order for the delivery of which, from any warehouse, demand is made, are forfeited.

§ 21. If goods be charged to pay duty according to the number, measure, or weight, such number, measure, or weight must be stated in the entry; and if they be charged according to value, such value must be stated and affirmed by declaration of the importer or his known agent, written upon the entry, and attested by his signature. If the goods be chargeable at the discretion of the officers by either criterion, both must be stated. A person making the declaration unauthorized, as by § 19, forfeits £100.

The declaration is as follows:—

"I, A. B., of [place of abode] do hereby declare, that I am [the importer, or authorized by the importer], of the goods contained in this entry, and that I enter the same [stating which, if part only] at the sum of . . . Witness my hand, the . . . day of . . .

"A. B."

§ 22. If it appear to the officers that goods are not valued according to their true value, they may detain and secure them, and (within 5 days from the landing, if in the ports of London, Leith, or Dublin, or within 7 days if in any other port), take them for the use of the crown; and if a different rate be charged, according as the value of the goods is described as above or below any particular price, and they are valued in the entry for the lower rate, and it appear to the officers that they are liable to the higher rate, they may be so taken. The commissioners, in such cases, cause the amount of such valuation, together with an addition of 10 per cent., and the duties paid upon entry, to be paid to the importer or proprietor in full satisfaction, and dispose of the goods for the benefit of the crown; and if the produce exceed the sums and charges, one moiety of the overplus goes to the officer who detained the goods; and the remainder is carried to account as duties of customs.

§ 23. The value of goods imported by the East India Company is ascertained by the gross price which they bring at the Company's sales, and the Company is required to sell all goods paying duty by their value, within three years from the importation, and give notice to the officers of the time and place.

§ 24. If the importer, or his agent after full con-

he must subscribe a declaration on the bill of store of the name of the person for whose use the goods have been consigned to him; and the real proprietor, ascertained to be such, must subscribe a declaration on the bill of store to the identity of the goods so exported and so returned, and that he was at the time of exportation and of re-importation the proprietor, and that the goods had not during such time been sold or disposed of to any other person; the declaration to be made before the collectors or comptrollers at the ports of exportation and importation respectively; whereupon the collector and comptroller shall admit such goods to entry by bill of store, and grant their warrant accordingly.

§ 35. Surplus stores are subject to the same duties, prohibitions, restrictions, and regulations, as the like sorts of goods when imported by way of merchandise; but if it appear to the collector and comptroller that the quantity or description of such stores is not excessive or unsuitable, under all the circumstances of the voyage, they may permit them to be entered for the private use of the master, purser, or owner, or of any passenger, to whom they may belong, on payment of the proper duties, or to be warehoused for the future use of the ship, although the same could not be legally imported by way of merchandise.

§ 36. No goods can be entered as being from any British Possession in America (if any benefit attach to such distinction), unless the master deliver to the collector or comptroller a certificate, under the hand of the proper officer of the place where such goods were taken on board, of the due clearance of the ship, containing an account of such goods.

§ 37. Before sugar, coffee, cocoa, or spirits are entered as the produce of some British Possession in America, or the Mauritius, the master must deliver to the collector or comptroller a certificate, under the hand of the proper officer where such goods were taken on board, testifying that proof had been made as required by law, that the goods are of such produce, stating place of produce, quantity and quality, number and denomination of the packages, and name of ship and master; and the master must also subscribe a declaration before the collector or comptroller, that such certificate was received by him at the place of taking on board, and that the goods are the same as are mentioned therein.

§ 38. Before sugar is entered as the produce of any British Possession within the East India Company's charter, the master must deliver to the collector or comptroller a certificate under the hand and seal of the proper officer at the place of taking on board, testifying that oath had been made before him by the shipper, that the same was really and *bona fide* such produce; and the master must also subscribe a declaration before the collector or comptroller, that such certificate was received by him at the place of taking on board, and that the sugar is the same as is mentioned therein. [By 5 & 6 Wm. IV. c. 66, § 2, no coffee can be entered as such produce, unless the master deliver to the collector or comptroller a certificate under the hand and seal of the proper officer at the place of taking on board, stating that a declaration had been signed before him (the contents of which he examined, and believed to be true) by the shipper, to the effect that the coffee was really the produce of such British Possession; nor unless the master subscribe a declaration, that the certificate was received by him at the place of taking on board, and that the coffee imported is the same as therein mentioned.]

§ 39. Before any wine is entered as the produce of the Cape of Good Hope, the master must deliver to the collector or comptroller a certificate under the hand of the proper officer, testifying

that proof had been made as required by law, that the wine is the produce of the Cape or its dependencies, stating the quantity and sort, and the number and denomination of the packages; and the master must subscribe a declaration before the collector or comptroller, that the certificate was received by him at the Cape, and that the wine is the same as is mentioned therein.

§ 40. It is lawful to import goods of the produce or manufacture of the Channel Islands or Man without payment of duty (except in the cases hereafter mentioned); and such goods are not deemed included in any duties imposed by any act to be made on the importation of goods generally from parts beyond the seas: Provided that such goods may be charged with any proportion of such duties as shall fairly countervail any duties of excise, or any coast duty, payable on the like goods, the produce of the part of the United Kingdom into which they shall be imported [and by 1 & 2 Vict. c. 113, § 4, this is extended to any excise duty payable on the materials]. The exemption does not extend to manufactures from materials the produce of any foreign country, except manufactures of linen and cotton made in and imported from the Isle of Man.

§ 41. Before goods can be entered as the produce of these islands (if any benefit attach to such distinction), the master delivers to the collector or comptroller a certificate from the governor or commander, that proof had been made, as required by law, that the goods were of the produce of the island, stating the quantity and quality, and the number and denomination of the packages; while the master must subscribe a declaration that the certificate was received at the place of taking on board, and that the goods are the same as are mentioned therein.

§ 42. The Treasury may permit goods, the produce of the British Possessions or Fisheries in North America, imported into Guernsey or Jersey direct, to be imported into the United Kingdom for home use direct from those islands, under such regulations as may be directed.

§ 43. No vessel arriving on the coast of England from the Channel Islands or Man, wholly laden with stone, the production thereof, is liable to be piloted by pilots licensed by the Trinity House.

§ 44. Fresh fish of British taking, and imported in British ships, and fresh lobsters and turbot, however taken or in whatever ship, and cured fish of British taking and curing, imported in British ships, may be imported duty free; but before cured fish can be so entered free of duty, the master must subscribe a declaration before the collector or comptroller, that such fish was actually caught and taken in British ships, and cured by the crews of such ships, or by British subjects.

§ 45. Before blubber, train oil, spermaceti oil, head matter, or whale fins, are entered as the produce of sea animals caught wholly by her Majesty's subjects usually residing in some part of her Majesty's dominions, and imported from some British Possession, the master must deliver to the collector or comptroller a certificate under the hand of the proper officer of the British Possession, or if no such officer be there, of two principal inhabitants at the place of shipment, notifying that oath had been made by the shipper, that the goods were the produce of sea animals taken wholly by British vessels. The master must also subscribe a declaration before the collector or comptroller, that the certificate was received by him at the place of taking on board, and that the goods are the same as mentioned therein; and the importer must subscribe a declaration at the time of entry, that, to the best of his knowledge and belief, the same were the produce of sea animals taken wholly by British vessels.

established standard in weight or fineness. foreign tacking or curing, or in foreign; except turbot and lobsters, stock fish, s, anchovies, sturgeon, botargo, and caviar. [Salt or dried fish may be imported for use, 1 & 2 Vict. c. 113, § 7.] Gunpowder, except by license from her Majesty, such to be granted for the furnishing her Majesty's stores only. Lamb. Malt. Mutton. Pork, reared, or slightly salted. Sheep. Snuff. Spirits from the Isle of Man. Swine. stalks stripped from the leaf, whether cured or not. Tobacco stalk flour.

Goods subject to certain Restrictions on Importation.

—goods from, unless by the East India Company, and into the port of London, during the continuance of their exclusive privileges [now expired]. East India—goods of places within the limits of the East India Company's charter, unless such goods shall be approved of by the Lords of the Treasury, and declared by order in council to be proper for such importation. Gloves of, unless in ships of 70 tons [or, by 6 & 7 Wm. IV. c. 89, § 5, if measured by the new measurement, 60 tons] or upwards, and in packages containing 100 dozen pairs of such gloves. Hides, skins, horns, or hoofs, or any other part of cattle, her Majesty may by order in council prohibit, in order to prevent any contagious disease. Parts of articles, viz. any distinct or separate part of any article not accompanied by the whole or part or all the other parts of such article, as to be complete and perfect, if such goods be subject to duty according to the value. Silk: manufactures of silk, being the manufactures of Europe, unless into the port of London, or into the port of Dublin direct from France, or into the port of Dover direct from France [or by 4 & 5 Wm. IV. c. 89, § 6, direct from France], and unless in a ship or vessel of 60 tons [or of 60 tons by the new measurement] or upwards, or into the port of Dover in a vessel of 60 tons at least, with license of the Commissioners of the Customs. Spirits, not distilled or medicinal spirits, viz. all spirits, unless in ships of 70 tons [or of 60 tons by the new measurement] or upwards; rum of and other spirits from the British plantations, if in casks, unless containing not less than 20 galls. [by 4 & 5 Wm. IV. c. 89, § 8, all vessels and packages, glass bottles, are counted casks, in regard to the immediately succeeding article]; spirits, if in casks, unless in casks containing not less than 40 galls. [reduced by 6 & 7 Wm. IV. c. 89, § 4, to 20 galls.]. Tea, unless from the place of its growth, and by the East India Company, and into the port of London, during the continuance of their exclusive privileges. Tobacco and snuff, viz. unless in casks of the burden of 120 tons or upwards; or of and imported from the state of Colombia made up in rolls, unless in packages containing at least 320 lbs. weight of such rolls; unless in packages containing 100 lbs. weight of cigars; all other tobacco and snuff, in hogsheads, casks, chests, or cases, each shall contain of net tobacco or snuff at 100 lbs. weight, if from the East Indies, or [reduced, by 6 & 7 Wm. IV. c. 60, § 4, to 50 lbs.] weight, if from any other place, and packed in bags or packages within any such cask, chest, or case, nor separated nor in any manner whatever, except tobacco and snuff from the Turkish empire, which shall be packed in inward bags or packages, or divided in any manner within the same package, provided such outward package be a cask, chest, or case, and contain 100 lbs. net at least [but by 4 & 5 Wm. IV.

c. 89, § 7, none of these restrictions apply to tobacco direct from Mexico, or South America, or the islands of Cuba and St Domingo, in packages of not less than 80 lbs.]; and unless the particular weight of tobacco or snuff in each hogshead, cask, chest, or case, with the tare of the same, be marked thereon; and unless into the ports of London, Liverpool, Bristol, Lancaster, Cowes, Falmouth, Whitehaven, Hull, Port-Glasgow, Greenock, Leith, Newcastle-upon-Tyne, Plymouth, Belfast, Cork, Drogheda, Dublin, Galway, Limerick, Londonderry, Newry, Sligo, Waterford, and Wexford; or into some other port or ports which may hereafter be appointed for such purpose by the Lords Commissioners of her Majesty's Treasury; such appointments in Great Britain being published in the London Gazette, and such appointments in Ireland being published in the Dublin Gazette; but any ship wholly laden with tobacco may come into the ports of Cowes or Falmouth to wait for orders, and there remain 14 days, provided due report of such ship be made by the master with the collector or comptroller of such port. And all goods from the Isle of Man, except such as be of the growth, produce, or manufacture thereof. And any goods imported contrary to any of these prohibitions or restrictions are forfeited.

§ 59. But goods may be imported to be warehoused, without payment of duty at the time of the first entry, or notwithstanding their being prohibited to be imported for home use, except the following, viz.:—Goods prohibited on account of the package in which they are contained, or the tonnage of the ship in which they are laden; tea and goods from China in other than British ships, or by other persons than the East India Company during the continuance of their exclusive privileges of trade [now expired]; gunpowder, arms, ammunition, or utensils of war; dried or salted fish, not being stock fish; infected hides, skins, horns, hoofs, or any other part of any cattle or beast; counterfeit coin or tokens; books first composed or written, or printed and published in the United Kingdom, and reprinted in any other country or place; copies of prints first engraved, etched, drawn, or designed in the United Kingdom; copies of casts of sculptures or models first made in the United Kingdom; clocks or watches, being such as are prohibited to be imported for home use.

§ 60. If by reason of the sort of any goods, or of the place from whence, or the country or navigation of the ship in which any goods are imported, they may not be used in the United Kingdom, they can only be entered to be warehoused, and it must be declared upon the entry that they are entered to be warehoused for exportation only.

OUTWARDS.

General Provisions, § 61. No goods can be shipped, or waterborne to be shipped, in any place in the United Kingdom, or the Isle of Man, to be carried to parts beyond the seas, before due entry outwards of ship and entry of goods have been made, and cockpit granted, nor before the goods have been duly cleared for shipment as after mentioned; and no stores can be shipped for the use of such ship, nor can goods be deemed stores, except such as are borne upon the victualling bill, and no goods can be so shipped or waterborne to be shipped, except as directed by the act, under penalty of forfeiture of the goods or stores.

§ 62. The master of any ship with goods or stores on board departing without being duly cleared outwards, forfeits £100.

§ 63. The master of every ship departing, upon application receives from the searcher a victualling bill for the shipment of such stores as he may require, and as may be allowed by the

collector and comptroller, for the use of the ship, according to the voyage, and no articles are deemed stores except such as are so borne upon the victualling bill.

Ship's Entry, § 64. The master of every ship in which goods are to be exported, must, before taking on board, deliver to the collector or comptroller a certificate of the clearance inwards or coastwise of such ship of her last voyage, specifying what goods, if any, have been reported inwards for exportation; and an account, signed by the master or his agent, of the entry outwards of the ship for her intended voyage, setting forth the name and tonnage, the name of the place to which she belongs if a British ship, or of the country if a foreign ship, the name of the master, and the name of the place for which she is bound if any goods are to be shipped for the same, and the name of the place at which she is to take in her lading, and if the ship have commenced her lading at some other port, the master must state the name of the port at which any goods have been so laden, and produce a certificate from the searcher that the cockets for such goods have been delivered to him, the particulars of the account to be written and arranged as the collector and comptroller may require. The account is the entry outwards, and must be entered in a book by the collector for the information of all interested; and if any goods be taken on board any ship before she be entered outwards, the master forfeits £100; but where it becomes necessary to lade any heavy goods before the whole of the inward cargo is discharged, the collector and comptroller may issue a stiffening order for that purpose, previous to the entry outwards.

Entry of Goods, § 65. The person entering outwards goods to be exported, must deliver to the collector or comptroller a bill of entry fairly written [or printed as above, see § 18], in words at length, expressing the name of the ship and of the master, and of the place to which the goods are to be exported, and of the person in whose name they are to be entered, and the quantities and proper denominations or descriptions of the several sorts, and must pay any duties due upon the exportation; and deliver at the same time one or more duplicates of the bill, in which sums and numbers may be expressed in figures. The particulars in the bill must be so written and arranged, and the number of duplicates must be such, as the collector and comptroller may require. The collector and comptroller then cause to be prepared, and sign, a cocket for the goods, to be delivered to the person who makes entry, and who is responsible for the proper use of it.

§ 66. If any drawback or bounty be allowable upon the exportation, or any duty be payable, or any exemption from duty claimed, or if the goods be exportable only according to some particular regulation, or under some restriction or condition, or for some particular purpose or destination, they must be entered and cleared by the denominations or descriptions used or referred to in the granting of the drawback, or the directing of the regulation, &c.; and if the goods are charged according to the value, such value must be stated in the entry, and be affirmed by the declaration of the exporter or his known agent, to be made upon the entry, and attested by his signature; and if any person make such declaration, not being the exporter or his agent, he forfeits £100. The declaration is to be made as follows, and to be binding upon the person making it, viz. :—

" I, A. B. of [place of abode] do hereby declare, that I am the exporter of the goods mentioned in this entry, [or, that I am duly authorized by him,] and I do enter the same at the value of

Witness my hand the _____ day of _____
" A. B."

§ 67. If upon examination it appear to the officers that the goods are not valued according to the true value, they may be detained, and (within two days) taken and disposed of for the benefit of the crown, as above provided with regard to goods imported, except that no sum in addition to the amount of the valuation and the duties paid is to be paid to the exporter or proprietor.

§ 68. The person intending to enter outwards any foreign goods for drawback, at any other port than that at which the duties inwards had been paid, must first deliver to the collector or comptroller where the duties were paid two or more bills, as the case may require, of the particulars of the importation, and of the entry outwards intended to be made; and thereupon the collector and comptroller, finding such bills to agree with the entry inwards, writes off such goods from the same, and issues a certificate of the entry, with such particulars as may be necessary for the computation of the drawback, setting forth the destination of the goods, the person in whose name they are to be entered, and the name of his port. The certificate, with two or more bills of the same, as the case may require, in which sums and numbers may be expressed in figures, being delivered to the collector or comptroller of the port of exportation, is the entry outwards, and such collector and comptroller causes a cocket to be written and delivered as above stated.

§ 69. No cocket can be granted for coals to the Isle of Man, or any British Possession, until the exporter give security by bond in a penal sum of forty shillings the chaldron, with condition that the same shall be landed at the place for which they are exported, or otherwise accounted for to the satisfaction of the commissioners, and also with condition to produce (within such time as the commissioners may require, to be expressed in the bond) a certificate of the landing, under the hand of the proper officer at the place of destination. The bond is not liable to stamp duty.

Clearance of Goods, § 70. Before any part of the goods for which a cocket has been granted can be shipped or waterborne to be shipped, they must be duly cleared with the searcher; and before being cleared, the particulars for each clearance must be indorsed on the cocket, together with the number and denomination or description of the packages; and in the margin of the indorsement marks and numbers of the packages must be delineated; and to each indorsement must be subjoined, in words at length, an account of the total quantities of each sort of goods intended in such indorsement, and the total number of each sort of package, distinguishing such goods as are to be cleared for any bounty or drawback, and also such as are subject to duty on exportation, or entitled to exemption, and also such as can only be exported by virtue of some particular order or authority, or under some particular restriction or condition, or for some particular purpose or destination; all goods shipped or waterborne to be shipped, without being duly cleared, are forfeited.

§ 71. The person clearing for shipment must, on each occasion, produce the cocket so indorsed to the searcher, and deliver a shipping bill or copy of such indorsement, referring by names and date to the cocket, and must obtain the order of the searcher for the shipment, and the particulars in the indorsement and shipping bill must be written and arranged as the collector and comptroller may require.

§ 72. Coals brought coastwise may be entered for exportation without being landed, provided the officers be satisfied that the quantity left on board does not exceed the quantity so entered outwards.

§ 73. Upon the clearance of goods of home pro-

coast, and demand the file of cockets and the victualling bill, and if there be goods or stores not contained in the indorsements on the cockets nor in the victualling bill, they are forfeited; and if goods contained in the indorsements be not on board, the master forfeits £20 for each package; and if any cocket be at any time falsified, the person falsifying or wilfully using it forfeits £100.

§ 85. Every ship departing from any port must bring to at such stations within the port as may be appointed by the commissioners, for the landing of officers, or for further examination.

Debenture Goods, § 86. No drawback or bounty is allowed upon exportations unless the goods have been entered in the name of the real owner at the time of entry and shipping, or of the person who had actually purchased and shipped them, in his own name and at his own liability and risk, on commission, according to the practice of merchants, and who continues to be entitled in his own right to such drawback or bounty, except in the cases after provided for.

§ 87. The owner or commission merchant must subscribe a declaration upon the debenture that the goods have been actually exported, and have not been re-landed, and are not intended to be re-landed in any part of the United Kingdom nor in the Isle of Man (unless entered for the Isle of Man), nor in the Faroe Isles, and that he was the real owner at the time of entry and shipping, or that he had purchased and shipped the goods in his own name and at his own liability, on commission, as the case may be, and that he was and continued to be entitled to the drawback in his own right, provided that if he have not purchased the right to the drawback or bounty, he must declare under his hand upon the entry and the debenture the person entitled to it, whose name must be stated in the cocket and in the debenture, and the receipt of such person on the debenture is a discharge for the drawback.

§ 88. If the owner or merchant be resident more than 20 miles from the custom-house of the port of shipment, he may appoint any person to be his agent to make and pass his entry, and to clear and ship his goods, and to receive the drawback or bounty payable on his debenture, if payable to him, provided the name of the agent and the residence of the owner or merchant be subjoined to the name of the owner or merchant in the entry and in the cocket. The agent must make declaration upon the entry, if any be necessary, and also upon the debenture, to the effect above described, and must answer such questions touching his knowledge of the exportation of the goods, and the property therein, and of the right to the drawback or bounty, as may be demanded by the collector or comptroller; and if such goods be exported by a corporation or joint-stock company, they may appoint an agent so to act for them.

§ 89. If any goods to be exported for drawback have been consigned by the owner to his agent to be exported on account of the owner, the agent being the consignee by whom and in whose name the duties inwards on such goods had been paid, or his legal representative, may in like manner enter, clear, and ship the goods for him, and receive the drawback.

§ 90. No drawback is allowed on exportation of goods unless they be shipped within 3 years after payment of duties inwards, and no debenture for any drawback or bounty allowed upon exportation is paid after 2 years from the date of shipment, nor is any drawback allowed upon goods which by damage or decay have become of less value for home use than the drawback; and goods so damaged if cleared for drawback are forfeited, and the person clearing forfeits £200, or treble the drawback, at the election of the commissioners.

§ 91. For the purpose of computing and paying any drawback or bounty, a debenture must, on due time after entry, be prepared by the collector and comptroller, certifying in the first instance the entry outwards; and so soon as the goods have been duly exported, and a notice of the particulars of them has been delivered by the exporter to the searcher, the shipment and exportation must be certified to the collector and comptroller upon the debenture, by the searcher, and the debenture is then computed and passed with all convenient despatch, and delivered to the person entitled to receive it.

§ 92. No drawback or bounty is allowed for goods exported to the Isle of Man until a certificate be produced from the collector and comptroller there of the due landing.

§ 93. No drawback or bounty is allowed for bales cleared as press-packed, unless the quantities and qualities of goods in each be verified by the master packer, or, in case of unavoidable absence, by his foreman, having knowledge of the contents, by declaration subscribed upon the cocket before the collector or comptroller; or if the packer reside more than ten miles from the port, by declaration upon an account of the goods, before a magistrate or justice. If such bales be not cleared as being press-packed, the searcher, having opened any bale, is not required to repack it at his charge.

§ 94. No goods cleared for drawback or bounty, or from the warehouse, can be waterborne, to be put on board, unless by a person authorized by license from the commissioners, who, before granting it, may require such security as they may deem necessary. The commissioners may revoke any such license if the holder be convicted of any offence against the laws of the customs or excise.

§ 95. If any goods taken from the warehouse to be exported, or cleared to be exported for any drawback or bounty, are not duly exported to parts beyond the seas, or are re-landed (not having been duly re-landed or discharged as short-shipped under the care of the proper officers), or be landed in the Faroe Isles, or be carried to the Channel Islands, or Man (not having been duly entered, cleared, and shipped to be exported directly to one of these islands), they are forfeited, together with the ship, and all vessels used in re-landing, landing, or carrying them; and any person by whom, or by whose orders or means, the goods have been so taken or cleared, or so re-landed, landed, or carried, forfeits a sum equal to treble their value.

§ 96. A drawback of the whole duties is allowed for wine for officers of the navy, on board ships in actual service, not exceeding in one year the following quantities, viz.:—For every admiral, 1200 galls.; vice-admiral, 1050; rear-admiral, 800; captain of the first and second rate, 630; captain of the third, fourth, and fifth rate, 420; captain of an inferior rate, 210; lieutenant and other commanding-officer, and for every marine officer, 135. Such wine can only be shipped at one of the following ports, viz.:—London, Rochester, Deal, Dover, Portsmouth, Plymouth, Yarmouth, Falmouth, Belfast, Dublin, Cork, Leith, or Glasgow.

§ 97. The person entering such wine, and claiming the drawback, must state in the entry and declare on the debenture, the name of the officer, and of his ship; and the wine must be delivered into the charge of the officers of the customs at the port of shipment, to be secured and warehoused until shipped under their care; and the officers having certified upon it the receipt of the wine, the debenture is computed, passed, and delivered.

§ 98. Provision is made for transferring wine from one officer to another, as part of his pro-

or on board the same ship or another shipment from one ship to another, or the relanding of the same for future reshipment. The same may receive back the duties on wine, and deliver it for home use :

If any such wine be not laden on for which it was intended, or be it permission of the proper officer, it is forfeited.

Master of any ship of war in actual service and ship at the ports of Portsmouth, or Plymouth, tobacco there consumed in his name, for the use of which he deliver to the collector or certificate from the captain, stating the purser and the number of men, with one surety, in treble the part shall be relanded without orders of the customs, or be landed in the Islands, or Man.

Purser be removed to another ship, any tobacco may be transhipped, setting forth the time and the place of shipment. The collector and the purser at a port where any ship is paid off remains of any tobacco to be taken by the purser, either for his own use, or to be warehoused for six months supply of some other ship, or for other duties. All tobacco so warehoused is subject to the provisions of the act for the regulation of tobacco generally, as far as

the quantity of tobacco is allowed in 2 lbs., by the lunar month, for his own use, nor may a greater quantity be taken than sufficient to serve for his own use, and the collector and comptroller shall take an account of the quantities so taken.

Goods may not be put off from any wharf, or be waterborne for exportation, except on days not being Sundays or holidays, and time, viz. : from 1st September to 1st March, betwixt sunrise and sunset, on the last day of March until the 1st of April, between 7 o'clock A. M. and 4 o'clock P. M. nor may goods be then put off or taken in the presence or with the permission of the proper officer, nor except from a wharf appointed by royal authority, or quay, or place appointed by the proper officer.

Any person exporting goods prohibited by this act, is liable to be arrested under penalty of forfeiture, and to pay the value of the goods.

§ 104. The goods in the table following are absolutely prohibited to be exported under the restrictions, viz. :—

PROHIBITIONS AND RESTRICTIONS OUTWARDS.

Articles, viz. : Any outward or inward movement, or dial-plate, of any metal, or movement in or with every such article, or dial-plate, made up fit for use, or with the name or watchmaker's name engraven

on any metal inferior to silver which is mixed, wrought, or set upon gold, or shall be gilt, or drawn into wire, or made into plate, and spun or woven, or made of or upon, or mixed with lace, or embroidery, tambour-work, or made in the gold or silver lace manufacture upon silk, or made into bullion, or pearl or any other materials made in a silver lace manufactory, or which is or be meant to imitate such lace, or embroidery, tambour-work, or

buttons; nor shall any person export any copper, brass, or other metal which shall be silvered or drawn into wire, or flattened into plate, or made into bullion spangles, or pearl or any other materials used in the gold or silver lace manufactory, or in imitation of such lace, fringe, cord, embroidery, tambour-work, or buttons, or of any of the materials used in making the same, and which shall hold more or bear a greater proportion than three pennyweights of fine silver to the pound avoirdupois of such copper, brass, or other metals. Any metal inferior to silver, whether gilt, silvered, stained, or coloured, or otherwise, which shall be worked up or mixed with gold or silver in any manufactory of lace, fringe, cord, embroidery, tambour-work, or buttons.

Tools and utensils, viz. : Any machine, engine, tool, press, paper, utensil, or instrument used in or proper for the preparing, working, pressing, or finishing of the woollen, cotton, linen, or silk manufactures of this kingdom, or any other goods wherein wool, cotton, linen, or silk is used, or any part of such machines, engines, tools, presses, paper, utensils, or instruments, or any model or plan thereof, or any part thereof; except wool cards or stock cards not worth above four shillings per pair, and spinners' cards not worth above one shilling and sixpence per pair, used in the woollen manufactures. Blocks, plates, engines, tools, or utensils, commonly used in or proper for the preparing, working up, or finishing of the calico, cotton, muslin, or linen printing manufactures, or any part of such blocks, plates, engines, tools, or utensils. Rollers, either plain, grooved, or of any other form or denomination, of cast-iron, wrought iron, or steel, for the rolling of iron or any sort of metals, and frames, beds, pillars, screws, pinions, and each and every implement, tool, or utensil thereunto belonging; rollers, slitters, frames, beds, pillars, and screws for slitting mills; presses of all sorts, in iron and steel, or other metals, which are used with a screw exceeding one inch and a half in diameter, or any parts of these several articles, or any model of the before-mentioned utensils, or any part thereof; all sorts of utensils, engines, or machines used in the casting or boring of cannon or any sort of artillery, or any parts thereof, or any models of tools, utensils, engines, or machines used in such casting or boring, or any parts thereof; hand-stamps, dog-head stamps, pulley-stamps, hammers and anvils for stamps; presses of all sorts called cutting-out presses; beds or punches to be used therewith, either in parts or pieces, or fitted together; scouring or shading engines; presses for horn buttons; dies for horn buttons; rolled metal, with silver thereon; parts of buttons not fitted up into buttons, or in an unfinished state; engines for chasing, stocks for casting buckles, buttons, and rings; die-sinking tools of all sorts; engines for making button-shanks; laps of all sorts; tools for pinching of glass; engines for covering of whips; bars of metal covered with gold or silver, and burnishing stones commonly called blood-stones, either in the rough state or finished for use; wire moulds for making paper; wheels of metal, stone, or wood, for cutting, roughing, smoothing, polishing, or engraving glass; purcellas, pincers, sheers, and pipes used in blowing glass; potters' wheels and lathes, for plain, round, and engine-turning; tools used by saddlers, harness-makers, and bridle-makers, viz. : Candle strainers, side-strainers, point-strainers, creasing-irons, screw-creasers, wheel-irons, seat-irons, pricking-irons, bolstering-irons, clams, and head-knives. Frames for making wearing-apparel.

A LIST OF GOODS, THE EXPORTATION OF WHICH MAY BE PROHIBITED BY PROCLAMATION OR ORDER IN COUNCIL.

Arms, ammunition, and gunpowder. Ashes, pot and pearl. Military stores and naval stores, and any articles (except copper) which her Majesty shall judge capable of being converted into or made useful in increasing the quantity of military or naval stores. Provisions, or any sort of victual which may be used as food by man.

Any goods exported, or waterborne to be exported, contrary to any of these prohibitions or restrictions, are forfeited.

COASTWISE.

§ 105. All trade by sea from one part of the United Kingdom to another, or from one part of the Isle of Man to another, is deemed coasting-trade, and all ships employed therein coasting-ships; and no part of the United Kingdom, however situated, is deemed beyond the seas, with regard to any other part.

§ 106. The Treasury are empowered to determine in what cases the trade by water from one place on the coast to another shall or shall not be deemed a trade by sea, within the meaning of this act or any other act.

§ 107. No goods are to be carried in any coasting-ship, except such as are laden at some place in the United Kingdom, or the Isle of Man; and no goods are to be laden to be carried coastwise until all goods brought in the ship from abroad have been unladen; and if any goods be taken into or put out of any coasting-ship at sea, or over the sea, or if any coasting-ship touch at any place over the sea, or deviate from her voyage, unless forced by unavoidable circumstances, or if the master of any coasting-ship which may touch at any place over the sea, do not declare the same in writing, under his hand, to the collector or comptroller at the port where the ship afterwards first arrives, the master forfeits £200.

§ 108. No goods are to be laden to be carried coastwise, nor having been brought coastwise to be unladen, until due notice in writing, signed by the master, have been given to the collector or comptroller, by the master, owner, wharfinger, or agent, of the intention to lade, or of the arrival, as the case may be, nor until proper documents have been granted, as after described, for the lading or unlading; and goods laden or unladen contrary to the directions of the act, as follows, are forfeited.

§ 109. In the notice must be stated the name and tonnage of the ship, the name of the port to which she belongs, the name of the master, the name of the port to which she is bound or from which she has arrived, and the name or description of the wharf or place at which her lading is to be taken in or discharged, as the case may be; the notice to be signed by the master, owner, wharfinger, or agent, and entered in a book to be kept by the collector, for the information of all interested. Every notice for unlading must be delivered within 24 hours after arrival, under a penalty of £20 by the master; and in every notice for lading must be stated the last voyage on which the vessel arrived; and if the voyage have been from beyond the seas, there must be produced with the notice a certificate of the discharge of any goods brought in the ship, and of due clearance inwards.

§ 110. Upon the arrival of any coasting ship in Britain from Ireland, or in Ireland from Britain, the master must, within 24 hours, deliver the notice, signed by him, to the collector or comptroller, in which, if the ship have on board goods subject to any duty of Excise, or which had been imported from beyond the seas, the particulars, with the marks and numbers of the packages, must be set forth. If there be no such goods on

board, it must be so declared. The master must answer any questions relating to the voyage, and if he fail in due time to deliver the notice, and truly to answer questions, he forfeits £100.

§ 111. When due notice has been given to the collector or comptroller at the port of lading of the intention to lade, he grants a general sufferance for the lading of goods (without specifying them), at the place therein expressed, which is authority for lading any goods, except such as it may expressly except. But before a sufferance be granted for goods prohibited, or subject to any export duty other than an *ad valorem* duty, the master or owner, or the shipper, must give bond, with one surety, in treble the value, that the goods shall be landed at the port for which the sufferance is required, or be otherwise accounted for to the satisfaction of the commissioners.

§ 112. The master of every coasting-ship must keep a cargo-book, stating the name of the ship, of the master, and of the port to which she belongs, and of the port to which bound on each voyage. In this book must be entered,—at the port of lading, an account of all goods taken on board, stating the descriptions of the packages, and the quantities and descriptions of the goods packed and loose, and the names of the shippers and consignees, as far as known,—and at the port of discharge must be noted the respective days on which goods are delivered, and the respective times of departure and arrival. The master must produce the book for the inspection of the coast-waiter or other proper officer, so often as demanded, who is at liberty to make any note or remark therein. If the master fail correctly to keep the book, or to produce the same, or if there be found on board goods not entered, or noted as delivered, or if any goods entered as laden, or not noted as delivered, be not on board, the master forfeits £50, and if, upon examination at the port of lading, any package entered as containing foreign goods be found not to contain such, it is forfeited, with its contents; and if at the port of discharge any package be found to contain foreign goods not entered, they are forfeited.

§ 113. Before any coasting-ship departs, an account, with a duplicate, fairly written, and signed by the master, must be delivered to the collector or comptroller, setting forth the particulars required to be entered in the cargo-book, of foreign goods, and goods subject to export duty (other than an *ad valorem* duty), and of corn, grain, meal, flour, or malt, laden on board, and generally, whether any other British goods or no other British goods be laden, or whether the ship be wholly laden with British goods not of any of the descriptions before mentioned, as the case may be. The collector or comptroller retains one of the accounts, and returns the other, dated and signed by him, and noting the clearance thereon; and the account is the clearance for the voyage, and the transire for the goods. If it be false, or do not correspond with the cargo-book, the master forfeits £50.

§ 114. Before goods are unladen at the port of discharge, the master, owner, wharfinger, or agent, must deliver the transire to the collector or comptroller, who grants an order for the unlading at a place specified. If any goods on board be subject to duty on arrival coastwise, the master, owner, wharfinger, agent, or consignee, must also deliver a bill of entry, with a copy, and must pay all duties of customs, or produce a permit in respect of duties of excise, upon which the collector and comptroller grant an order for the landing, in presence or by authority of the coast-waiter.

§ 115. The collector and comptroller, in the cases after mentioned, may grant for any coasting-ship a general transire, to continue for any time not

exceeding one year, for the lading of any goods (except such as it may expressly except), and for the clearance and unloading, viz.:—For any ship regularly trading,—between places in the river Severn eastward of the Holmes; or between places in the river Humber; or between places in the Firth of Forth; or between places to be named in the transire, and carrying only manure, lime, chalk, stone, gravel, sand, or any earth, not being fullers' earth. The transire must be written in the cargo book. It may at any time be revoked, notice being given to the master or owner, or to any of the crew on board, or being entered in the cargo book by an officer. [By 5 & 7 Wm. IV. c. 60, § 6, this provision is extended, and such transires may be granted by the commissioners, "under such regulations, and for such time as they may see fit."]

§ 116. The coast-waiter, landing-waiter, and searcher, and any other officer, may, at any time board any coasting-ship, and strictly search her, and examine all goods on board, or being laden or unladen, and demand all documents which ought to be on board.

§ 117. No goods going coastwise are to be unshipped, shipped, or waterborne to be shipped, but on the days and within the times before mentioned in § 102, and in presence or with the authority of, and at places appointed and approved of by, the proper officer.

§ 118. When goods are prohibited to be exported by proclamation or order in council, the proclamation or order may prohibit or restrict the carrying of them coastwise; and when such prohibition or restriction is invaded, the goods are forfeited.

MISCELLANEOUS REGULATIONS.

§ 119. Provides for the construction of abbreviated terms,—among these, the term "Limits of the East India Company's charter" means all places and seas eastward of the Cape of Good Hope to the Straits of Magellan; the terms "collector and comptroller" mean those of the port intended in the sentence; the term "warehouse" means any place, whether house, shed, yard, timber-pond, or other place in which goods entered to be warehoused upon importation may be kept, and secured without payment of duty, or although prohibited to be used in the United Kingdom; and the term "queen's warehouse" means any place provided by the crown for lodging goods therein for security of the customs.

§ 120. The island of Malta and its dependencies are deemed in Europe.

§ 121. Duties, bounties, and drawbacks must be paid and received in British currency, and according to imperial weights and measures; and where they are imposed and allowed according to any specific quantity or value, they apply in the same proportion to any greater or less quantity or value; and all duties, bounties, and drawbacks are under the management of the commissioners of the customs.

§ 122. All bonds in respect of goods or ships are taken by the collector and comptroller; and after expiration of 3 years from the date, or from the time for performance, every bond upon which no prosecution or suit has been commenced is void.

§ 123. The same instruments, tables, and scales of graduation, and the same rules and methods, followed by the officers of excise, are to be employed by the officers of the customs for the duties on imported spirits.

§ 124. The officers of the customs may take samples of goods for ascertaining the duties, to be disposed of as the commissioners may direct.

§ 125. For adapting alterations in the law to current transactions, it is provided that importation is deemed to have had effect at the time at which the ship had actually come within the limits of the port of reporting and discharging,

and that exportation is deemed to have had effect at the time at which the goods had been shipped for exportation; and if such question arise upon the arrival or departure of any ship, exclusive of her cargo, the time of arrival is deemed that at which the report has been or ought to have been made; and the time of departure is deemed that of the last clearance for the voyage.

§ 126. It is not lawful to return any overcharge or duty, which has been judicially decided to be levied on an erroneous construction of the law, after the expiration of three years from the date of payment.

§ 127. The tonnage or burden of every British ship within the meaning of the act, is that set forth in the certificate of registry, and the tonnage or burden of every other ship must be ascertained in the same manner as those of British ships.

§ 128. The officers at any port under British dominion where there is a collector and comptroller may refuse to admit any person to act as master of any British ship, unless his name be inserted in or indorsed upon the certificate of registry as master, or until his name be so indorsed by such collector and comptroller.

§ 129. Persons falsifying, or counterfeiting, or using, when falsified or counterfeited, documents for the unloading, lading, entering, reporting, or clearing of ships, or the landing or shipping of goods, &c., or by any false statement procuring such document, forfeit £200; but the penalty does not attach to any particular offence for which any other penalty is expressly imposed.

§ 130. When any person makes application to an officer on behalf of any other person, the officer may require of the person applying a written authority from the person for whom he acts before transacting business.

§ 131. Any person making a false declaration, except as to the value of goods, and any person not truly answering questions authorized by any customs act, forfeits £100, over and above any other penalty.

§ 132. All articles by this or any other customs act declared to be forfeited, may be seized by any officer of the customs; forfeitures of vessels include the guns, tackle, apparel, and furniture; forfeitures of goods include the packages.

§ 133. Articles forfeited, or detained as undervalued, may be restored on such terms as the commissioners may think fit; and if the proprietor accept the terms, he can have no action for recompense or damage.

§ 134. If a ship have become liable to forfeiture, or the master to any penalty on account of goods laden or unladen, which are small in quantity or of trifling value, and it appear to the satisfaction of the commissioners, that they had been laden or unladen contrary to the intention of the owners, or without the privity of the master, as the case may be, the commissioners may remit the forfeiture, and remit or mitigate the penalty, as they shall see reason to acquit the master of all blame, or more or less to attribute the offence to neglect of duty.

§ 135. If any ship coming up or departing out of port do not bring to at the stations appointed by the commissioners, for the boarding or landing of officers, the master forfeits £100.

§ 136. The commissioners, and the collector and comptroller of any port, may station officers on board any ship while within port, the master providing each with sufficient room under the deck, in some part of the fore-castle or steerage, for his bed, and in case of neglect or refusal, forfeiting £100.

§ 137. When goods are warehoused for security of the duties, or to prevent them from coming into home use, the commissioners may charge warehouse rent for the time, at the rate payable

for the like goods when warehoused in any warehouse in which they may be warehoused without payment of duty; but the Commissioners of the Treasury, or of the Customs, by warrant under their hands from time to time may fix the amount of rent for goods secured in any of the warehouses.

§ 138. In case goods are not cleared from the warehouse within 3 calendar months (or sooner, if they be of a perishable nature), the commissioners may cause them to be sold by auction, for home use or exportation, as the case may be, the produce to be applied towards the payment of the duties, if sold for home use, and of the warehouse rent and other charges, and the overplus (if any) being paid to the person authorized to receive the same. They may cause such goods to be destroyed as cannot be sold for a sum sufficient to pay duties and charges, if sold for home use, or to pay charges, if for exportation: Provided that if the goods have been landed by the officers, and the freight of the same has not been paid, the produce must be first applied to the payment of freight.

§ 139. The crown is empowered by commission out of the Exchequer, from time to time to appoint any port, haven, or creek, and to set out the limits thereof, and to appoint the proper places therein to be legal quays for lading and unlading, and to declare that any place set out as a legal quay by such authority, shall be no longer such, and to appoint any new place to be a legal quay. All ports, &c. existing as legal at the commencement of the act continue to be so, according to their respective limits, &c.

§ 140. In proceedings for offences, the averment that they were committed within the limits of any port is sufficient, without proof of the limits, unless the contrary be proved.

§ 141. The commissioners may from time to time, by order under their hands, appoint places to be sufferance wharfs, for lading and unlading by sufferance.

§ 142. No vessel employed ordinarily for the carriage of letters is permitted to import or export without permission of the commissioners, under penalty of £100 against the master.

§ 143. No person is to be deemed an apprentice in terms of the act 4 Geo. IV. c. 25, *for regulating the number of apprentices to be taken on board British merchant vessels, &c.*, unless the indenture have been enrolled with the collector and

comptroller of the port from which the apprentice first goes to sea after the date of the indenture, or in default of such enrolment, until it have been enrolled at some port from which the ship in which such apprentice shall afterwards go to sea shall be cleared. [See the Abridgment of the Seaman's Consolidation Act, 5 & 6 Wm. IV. c. 19. SEAMEN.]

Licensed Agents, § 144. No one is entitled to act as an agent for transacting business at the Custom-house in London, relating to the entry or clearance of any ship, goods or baggage, unless authorized by license of the commissioners, who are empowered in such case to require bond to be given, with one surety, in the sum of £1000, for the faithful and incorrupt conduct of such person and his clerks, provided that such bond be not required of any of the sworn brokers of the city of London; and any person acting without license, or in partnership with any person not licensed, forfeits £100 for each offence. [Bonds which had been granted in terms of 6 Geo. IV. c. 107 (repealed), are valid by 1 & 2 Vict. c. 112, § 8.]

§ 145. The Commissioners of the Treasury may, by order under their hands, revoke such license, and after a copy of such order has been delivered to the person or his clerk, or left at his place of abode or business, the license is void.

§ 146. These provisions do not prevent the clerk or servant of any person, or of any persons in copartnership, from transacting business at the Custom-house on account of such person without license; provided he do not transact any such business as clerk, servant, or agent to any other person.

§ 147. Any such agent or agents in copartnership may appoint any person without license to be a clerk in transacting such agency: Provided that no person can be admitted to be clerk to more than one agent or copartnership, nor until his name and residence, and the date of his appointment, have been indorsed on the agent's license, and signed by him, and witnessed by the signature of the collector and comptroller, unless such person have been appointed with consent of the commissioners before the commencement of the act.

§ 148. The Commissioners of the Treasury, by warrant, published in the London or Dublin Gazette, may extend these regulations to agents at any other port in Britain or Ireland.

[For abridgments of the other acts connected with the customs and the regulation of navigation, see SHIPPING, SMUGGLING, TARIFF, WAREHOUSING.]

CUTLERY. [HARDWARE AND CUTLERY.]

CUTTER, a sharp, light-built vessel, with one mast, running bowsprit, and fore and aft sails. Cutters are chiefly used as cruisers after smugglers, for conveying despatches to a fleet, and for private sailing yachts.

CUTTLE-FISH, a molluscan class of animals (*Cephalopoda*) of which seven species are indigenous to our seas, the most common being the *Sepia officinalis*, found in profusion on the shores of Hampshire, and other parts. The cuttle-fish is celebrated for the effusion, from a small bag, of a deep black fluid, by which, in exigencies, it clouds the surrounding water, in order that it may conceal itself. This excretion is manufactured into the pigment called sepia, and it is believed by many that China-ink is made from it. The internal plate or bone, being hard on one side while it is soft and yielding on the other, is sometimes used as a mould; it is also employed for cleaning or polishing silver; and when ground it furnishes "pounce," a material used by scribes for erasures.

CYPRESS, a forest tree, the most important species of which are the evergreen cypress (*Cupressus sempervirens*) and the white cedar (*C. thyoides*). Of the former there are two varieties, the upright and the spreading,—the last affording the larger and more valuable timber. It is a native of the south-eastern parts of Europe, particularly of Italy, where it is beautifully applied in the terraced scenery of villas; but it is not much cultivated in England,—the climate being too damp and cold for it in summer. Its wood is hard, elastic, and, though not so

beautiful in colour as mahogany, it is stronger, resists the worm equally well, and its odour repels insects from whatever may be contained in a cabinet or chest made of it. In order to preserve the remains of their heroes, the Athenians buried them in coffins of cypress; and the chests in which the Egyptian mummies are found are usually of the same material. The precise period to which the tree lives has not been ascertained, though the fact of its being planted over the graves of the dead, and carried in funeral processions as an emblem of immortality, may be regarded as a presumption that its duration must be very considerable.

The American cypress or white cedar is a native of Mexico and of the southern parts of North America,—luxuriating in the deadly swamps of the Mississippi. It grows to a considerable size, but slowly, being eighty years old before it is fit for timber, which even then is not very valuable, though it answers well for hoops, boats, roofing, and some other purposes.

D.

DAMAGED GOODS are those subject to customs duties though they have received some injury in their conveyance into the country, or in the bonded warehouse.

Not more than 63-64th parts to be allowed on damaged goods. (*Board Order*, May 31, 1771.)

At the out-ports, damages exceeding £10 not to be allowed without the Board's sanction, and not after the goods are in the merchant's possession. (*B. O.* Jan. 4, 1817.)

Surveys for damage not to take place until the parties have first petitioned. (*B. O.* June 5, 1817.)

The chief other rules are contained in the act 3 & 4 Wm. IV. c. 52, § 30-32, an abstract of which is given under the head **CUSTOMS REGULATIONS**.

DAMASK (*Fr.* *Venise*. *Ger.* *Damasten Tafelzeug*. *It.* *Tela damaschina*. *Por.* *Guarnicao de mesa adamascada*. *Sp.* *Tela adamascada*), a description of silk or linen cloth, of thick texture but fine in quality, with elaborate figures or flowers. It is a twilled fabric, and said to have been first made in Damascus. Linen damask is at present manufactured extensively at Dunfermline in Scotland, and in Ireland, for tablecloths and napkins. That made for curtains and similar articles, is formed of a mixture of silk with linen, cotton, or woollen. [**LINEN.**]

DAMMER, a resinous substance much employed in India for covering the bottoms of vessels. It is hard, dark-coloured, and brittle; and is exported in large quantities from the Eastern Islands and Malayan Peninsula to India. It exudes spontaneously from a tree, said by Mr Milburn to be a species of pine (*Shorea robusta*, Rox.); but according to Mr Crawford it is obtained of various kinds from different trees. It is so plentiful that it is gathered in lumps from the ground where it has fallen.

DANTZIC. [**PRUSSIA.**]

DATE (*Fr.* *Dattes*. *It.* *Datteri*. *Sp.* *Dátiles*), the fruit of the date palm (*Phoenix dactylifera*), a tree which forms the chief object of cultivation along the verge of the desert, which, with but few interruptions, extends from the shores of the Atlantic to the confines of Persia, a district where none of the cerealia will grow, owing to the aridity of the soil and the want of moisture. Between the States of Barbary and the Desert, it is so abundant that this region is called *Belid-ul-gerid*, or the Land of Dates. There are upwards of a hundred varieties; but in general it may be described as acorn-shaped, composed of a thin glossy membrane which contains a fine soft and pulpy fruit that is firm, sweet, and rather vinous to the taste; within this is enclosed a solid, tough, hard kernel. Ripe dates cannot be kept for any length of time without fermenting and becoming acid; whence those which are intended for storing or exportation are dried in the sun upon mats. They are exported in large quantities from Arabia to India; and a few are brought to this country from the Levant and Barbary.

“In the Hedjaz, the new fruit called *rutab* comes in at the end of June, and lasts two months. The harvest of dates is expected with as much anxiety, and attended with as general rejoicing, as the vintage of the South of Europe. The crop sometimes fails, or is destroyed by locusts, and then a universal gloom overspreads the population. The people do not depend upon the new fruit alone, but during the ten months of the year when no ripe dates can be procured, their principal subsistence is the date paste, called *adjouc*, which is prepared by pressing the fruit, when fully matured, into large baskets. ‘What is the price of dates at Mecca or Medina?’ is, says Burckhardt, always the first question asked by a Bedouin who meets a passenger on the road.” (*Lib. of Ent. Knowledge, Veget. Substances*, vol. I. p. 357.)

The *Date Palm* is a majestic tree which shoots up in one cylindrical column to the height of 50 or 60 feet, without branch or division, and throws out from the summit a magnificent crown of leaves. It is distinguished as male and female, one plant bearing the fruit and another the blossom. In the East, it has always been the subject of universal veneration. It is the palm-tree of Scripture, where it is frequently selected as the emblem of the majesty and beauty of rectitude; and both in ancient and modern times, the leaves have been used as the symbol of triumph. Its

extensive importance is one of the most curious subjects in natural history ; for a considerable part of the inhabitants of Egypt, Arabia, and Persia, subsist almost entirely upon its fruit. They boast also of its medicinal virtues. Their camels feed upon the date stones ; from the leaves they make couches, baskets, bags, mats, and brushes ; from the branches, cages for their poultry, and fences for their gardens ; from the fibres of the boughs, thread, ropes, and rigging : from the sap is prepared a spirituous liquor ; and the trunk of the tree furnishes fuel. It is now said, that from one variety of palm-tree meal has been extracted from among the fibres of the trunk, and has been used for food.

DAY-BOOK. [BOOK-KEEPING.]

DAYS OF GRACE, a certain number of days granted to the acceptor after the term of a bill is expired. In the British dominions these amount to three; but if the third should be Sunday, Good-Friday, Christmas-Day, or a fast appointed by proclamation, the bill is payable on the second day of grace. They run on all bills payable on a day fixed, or at so long after date, or after sight; but not on bills payable on demand, though they do (at least in England) on those payable at sight.

DEAD-WEIGHT, the name given to an advance by the Bank of England to government, on account of the half-pay and pensions of retired officers of the army and navy. After the end of the war, the sums thus payable amounted to about £5,000,000 per annum; and the ministry being desirous to relieve their present necessities by spreading the burden more equally over the 45 years, which, in 1822, were calculated as the mean probable duration of the lives, offered (4 Geo. IV. c. 22) to pay to any capitalists an annuity of £2,800,000 for that period, on condition of provision being made for the pensions on the basis of a graduated scale of payments; commencing in the first year at £4,900,000, and ending at £300,000. The South Sea directors entertained the project for a time, but soon discovered that it was beyond their means; ministers had then recourse to the Bank of England, who, in 1823, accepted the offer to a limited extent, and advanced to government, in the course of five years, £13,089,419, receiving in return an engagement to pay an annuity of £585,740 for 44 years, ending October 10, 1867. The bank has not yet disposed of any part of this security: a portion of it was, however, exposed for sale on the 17th July 1839; and an account of the offers then received will be found in the late Report on Banks of Issue. (*Par. Paper*, 1840, No. 602. App. p. 263.)

DEALS (*Dan. Dæler. Du. Deelen. Fr. Planches minces. Ger. Dielen. Rus. Doski. Sw. Tiljor*), the name given in the wood-trade to the timber of the pine when sawed into planks, in which form it is imported into this country from the N. of Europe and British America. Standard deals are boards above 7 inches in width, and of various lengths, exceeding 6 feet. When less than 7 inches in width they are termed *battens*, and when under 6 feet in length, *deal-ends*. The American deals are inferior in strength, and do not last so long as those of the N. of Europe, particularly Christiania; hence the latter are usually preferred for the flooring of houses, and other purposes where durability is required. But the former are used where cheapness is the principal consideration, as in building small houses; they are also preferred for many little articles, the internal fittings of houses, and other purposes which require wood that can be easily worked.

DEBENTURE, the certificate given at the customhouse to the exporter of goods, on which a bounty or drawback is allowed, bearing that he has complied with the statutory regulations, and is entitled to such bounty or drawback. [CUSTOMS REGULATIONS.]

DECIMAL FRACTIONS differ from vulgar fractions in this respect, that their denominators are always 10, or some power of 10, as 100, 1000, &c., and instead of *writing* the denominator under the numerator, it is *expressed* by pointing off from the right of the numerator as many figures as there are ciphers in the denominator; thus .5, .43, 5.26 denote, respectively, $\frac{5}{10}$, $\frac{43}{100}$, $5\frac{26}{100}$ or $\frac{526}{100}$. The value of each figure in a decimal decreases from the left to the right in a tenfold proportion; that is, each figure is ten times as great as if it were removed one place to the right, as in whole numbers; thus, .5, .05, .005, are $\frac{5}{10}$, $\frac{5}{100}$, $\frac{5}{1000}$, &c., and the decimal .438 is four-tenths, three-hundredths, and eight-thousandths of a unit.

Adding ciphers to the right of a decimal does not alter its value; thus, .5, .50, .500, or $\frac{5}{10}$, $\frac{50}{100}$, $\frac{500}{1000}$, are equal to each other, the numerator and denominator having been multiplied by the same number.

Decimals may be reduced to a common denominator by adding ciphers to the right, where it is necessary, till the number of decimal places is the same in all.

Thus, $\frac{5}{100}$, $\frac{3}{100}$, and $\frac{564}{1000}$, reduced to a common denominator, are $\frac{500}{1000}$, $\frac{300}{1000}$, and $\frac{564}{1000}$; that is, $\frac{800}{1000}$, $\frac{830}{1000}$, and $\frac{894}{1000}$.

The consequence of this method of expressing fractions is, that addition, subtraction, multiplication, and division, are performed exactly as in common arithmetic; the only difference being, that we have, besides, to ascertain the place of the decimal point. In addition and subtraction, having placed the decimal points under one another, and filled up the decimals, or supposed them to be filled up, all to the same number of figures or places with ciphers, the same number of decimal figures or places must be made in the result as in each of the lines. In multiplication, the number of decimal places in the result must be the sum of those in the multiplier and multiplicand; and, in division, it must be the difference of those in the divisor and dividend. Thus, the sum, difference, product, and quotient of 8.085 and 1.96, is 10.045, 6.125, 15.84680, and 4.1, respectively.

Addition.	Subtraction.	Multiplication.	Division.
8.085 1.96	8.085 1.96	8.085 1.96	8.085 1.96
Sum 10.045	Difference 6.125	Product 15.84680	$\frac{8.085}{1.96} = 4.1$ Quotient

To reduce a vulgar fraction to a decimal, add ciphers at pleasure, as decimals in the numerator, and divide by the denominator, according to the rule for the division of decimals.

$$\text{Example } \frac{3}{4} = \frac{3.00}{4} = .75$$

From the very nature of numbers, it must frequently happen that this division may be continued without termination; but, as the figures always decrease a tenth in value by each remove to the right from the point, decimals may be stopped, except in long calculations, at three or four places, without any great degree of error, and even in continued multiplications, when the decimals are stopped at a given place, we have only to increase the last figure by 1, if the next figure was to be 5 or above it, in order to compensate for cutting them short.

To find the value of a decimal of one denomination, in terms of a lower denomination.

Multiply the decimal by the number of integers of the lower denomination contained in one integer of the higher, and the product is the value required. The value of any fractional part of the lower denomination may be obtained in the same manner, till we come to the lowest.

Example, Required the value of .00875 £

20
1737500 shillings
12
4.500 pence
4
20 farthings

Hence, the value required is 13s. 4½d.*

The proofs of the rules for the management of decimal fractions here given are necessarily confined to particular instances, but the same reasoning may be applied in every case.

The following table of equations between vulgar and decimal fractions will be found useful in practice.

TABLE OF DECIMAL EQUIVALENTS.

$\frac{1}{2}$.500	$\frac{1}{4}$.250	$\frac{1}{8}$.125	$\frac{1}{16}$.0625	$\frac{1}{32}$.03125	$\frac{1}{64}$.015625	$\frac{1}{128}$.0078125	$\frac{1}{256}$.00390625	$\frac{1}{512}$.001953125	$\frac{1}{1024}$.0009765625
$\frac{3}{4}$.750	$\frac{5}{8}$.625	$\frac{3}{16}$.1875	$\frac{5}{32}$.15625	$\frac{3}{64}$.046875	$\frac{5}{128}$.0390625	$\frac{3}{256}$.01171875	$\frac{5}{512}$.009765625	$\frac{3}{1024}$.0029296875	$\frac{5}{2048}$.00244140625
$\frac{1}{10}$.100	$\frac{1}{20}$.050	$\frac{1}{40}$.025	$\frac{1}{80}$.0125	$\frac{1}{160}$.00625	$\frac{1}{320}$.003125	$\frac{1}{640}$.0015625	$\frac{1}{1280}$.00078125	$\frac{1}{2560}$.000390625	$\frac{1}{5120}$.0001953125
$\frac{1}{100}$.010	$\frac{1}{200}$.005	$\frac{1}{400}$.0025	$\frac{1}{800}$.00125	$\frac{1}{1600}$.000625	$\frac{1}{3200}$.0003125	$\frac{1}{6400}$.00015625	$\frac{1}{12800}$.000078125	$\frac{1}{25600}$.0000390625	$\frac{1}{51200}$.00001953125
$\frac{1}{1000}$.001	$\frac{1}{2000}$.0005	$\frac{1}{4000}$.00025	$\frac{1}{8000}$.000125	$\frac{1}{16000}$.0000625	$\frac{1}{32000}$.00003125	$\frac{1}{64000}$.000015625	$\frac{1}{128000}$.0000078125	$\frac{1}{256000}$.00000390625	$\frac{1}{512000}$.000001953125

* The following rule to convert decimals of a pound into shillings and pence will be found more convenient in practice.

Double the first decimal on the right of the point for shillings, increasing this number by 1, if the second decimal be 5, or above it.

Consider the number expressed by the 2d and 3d decimals (deducting 50, if 1 was added to the shillings) as farthings; diminishing, however, this number by 1, if it be above 12, and less than 20; and by 2, if it be above 25. The other decimals may be neglected.

DEL CREDERE, in its restricted sense, is an engagement by an insurance broker, for an additional premium, to guarantee the insured against the consequences of the failure of the underwriter. In its ordinary mercantile acceptation, it embraces every commercial transaction, in which the person who transacts for another engages for the solvency of the person with whom he so bargains. A factor employed to dispose of property, in the usual manner, is only responsible to his principal for the consequence of neglecting that degree of care which a prudent man takes of his own affairs; and if he sell to a person in good credit, and that person fail, he is not responsible for the debt. If the factor or agent, however, hold a *del credere* commission, he engages, in consideration of an additional premium, to guarantee all his transactions. His responsibility extends to the absolute payment, and so it is not sufficient that he remit the price by bills to his principal,—he is responsible for their being honoured (*M'Kenzie and Lindsay v. Scott*, 6 *Brown's Par. Cases*, 280). It was formerly held that this was a contract in which the agent "engages to ensure to his principal not only the solvency of the debtor, but the punctual discharge of the debt," and that "he is liable in the first instance without any previous demand from the debtor" (*Paley on Principal and Agent*, 41; and see, in Scotland, *Bell's Com.* i. 378). But the later doctrine is, that "a factor or broker acting under a commission *del credere* is a surety to his principal for the solvency of those with whom the principal deals through his agency. He is in no case, as regards his own employer, himself the principal in any contract he may make for him, and is liable only in default of those with whom he deals. It follows, therefore, that before he can be charged, it must be averred in the declaration, and proved at the trial, that the principal debtor has made default." (*Note to Lloyd's Paley*, p. 111.) [FACTOR. PRINCIPAL AND AGENT.]

DELEFT, a kind of earthenware, covered with an enamel or white glazing, which gives it the appearance and neatness of porcelain. It was so called from the town of that name in South Holland, the original seat of the manufacture, but which, since the improvements introduced into the English potteries by Wedgwood, is no longer a place of any note.

DELIVERY. [SALE. STOPPAGE IN TRANSITU.]

DEMERARA. [GUIANA.]

DEMURRAGE is applied to designate the time during which a vessel is detained beyond that originally stipulated in loading or unloading; but it is more commonly applied to the compensation which the freighter has to pay for such detention. The freighter usually agrees to load and unload within a certain time, and comes under a subsidiary stipulation to pay so much by way of demurrage if the time be exceeded, in which case it is generally fixed at a certain rate per day. In computing the number of days to be paid for, it may be a question whether they should be computed "running," i. e. without the exception of Sundays and holidays, or whether these should be excluded and "working" days only counted. It would appear that the interpretation of the word "days," in this respect, will depend on the custom of the place; and so it was decided, on evidence of custom, that when a vessel was employed on a voyage from the Elbe to London, with reference to unloading in the Thames, working days only were included (*Cochran v. Retberg*, 3 *Esp.* 121). Sometimes the demurrage is to run while the ship is detained by certain circumstances, e. g. while she is waiting for convoy, or until her cargo be completed. In the former case the demurrage ceases when the convoy is ready to depart, and in the latter when the ship is fully laden; and will not be continued by the vessel being detained, nor renewed on her being driven back by stress of weather. When there is a stipulation for demurrage, it is payable though the delay be not attributable to the conduct of the freighter, but to the crowded state of the docks, or to other extraneous causes. Demurrage is, properly speaking, the result of a stipulation, but it is often applied to the damages or compensation which the freighter must pay for having detained the vessel, when there is no special agreement, or beyond the time sanctioned by such agreement. The amount of damage in either of these cases must depend upon circumstance and usage; but in the latter case there is generally a means of measuring the amount, by that of the stipulated demurrage. Where a bill of lading has a note on the margin importing that the goods are to be removed at a certain time, otherwise a certain sum per diem is to be charged for delay, whoever claims the goods under the bill becomes responsible for the sum. It was decided in *Evans v. Forster*, however (1 *Barn. & Adol.* 118), that where there is no such note, the master cannot claim damages from the consignee on the implied contract. (*Abbot on Shipping*, 178-188.) [AFFREIGHTMENT. BILL OF LADING. CHARTER-PARTY. SHIPPING.]

DENARIUS, the chief silver coin in Rome down to the time of Constantine I., and worth, according to Pinkerton, about eightpence of our money. It originally contained ten asses, but after the first Punic war it became the representative of sixteen asses. The word denarius was also applied to coins of copper and gold. The *denarii æris* began with the Emperor Valerian, and six of them are supposed to have been equivalent to the silver denarius. The *denarius aureus*, the ordinary Roman coin of gold, was equivalent to twenty-five silver denarii, or a hundred sesterterii.

DENMARK, a kingdom lying in the N. W. of Europe, between 53° and 58° N. and 18° and 13° E. Area, 21,472 square miles. Subdivisions and population: —1. Islands of Zealand, Funen, and others, 697,900; 2. North Jutland, 525,900; 3. South Jutland, or Duchy of Sleswick, 340,500; 4. Duchy of Holstein, 439,900; 5. Duchy of Lauenburg, 35,900; total, 2,040,100. Copenhagen, the capital, is situated in Zealand. The government is a hereditary monarchy, formerly absolute; but in 1834 representative assemblies, with a consulting voice, were instituted in each of the four principal divisions; the small duchy of Lauenburg having long possessed a diet of its own. As Duke of Holstein and Lauenburg, the king is a member of the Germanic confederation.

The aspect of Denmark, generally, is that of a rich, well-cultivated country. The surface is flat, covered in some places with sands and marshes; and forming, with the exception of Holland, the lowest part of the great plain of Northern Germany. There are no mountains, for the highest inequalities of soil in Holstein and Sleswick do not exceed 1000 feet; and the islands in many places scarcely rise above the level of the sea. From its proximity to the ocean, the climate of Denmark is warmer than its latitude indicates. At Copenhagen the mean temperature of the year is 45·68; that of the warmest month being 65·68; and of the coldest, 27·14. The structure of the land, no part of which is more than 40 miles distant from the coast, does not allow the formation of large rivers. Those navigable are the Eyder, which rises in Holstein, and falls into the North Sea at Tonnungen, and the Trave, which enters the Baltic at Lubec. The former is navigable for about 105 miles, the latter for about 65. The want of such rivers is, however, amply compensated by the numerous *fjords* or firths, which indent the coasts. There are four canals. The largest is the Sleswick-Holstein, or Eyder canal, which conveys the Eyder from Rendsburg to the Gulf of Kiel, and thus unites the North Sea with the Baltic. It is 10 feet deep, and about 27 miles in length, and carries vessels of 120 tons. In 1838, no fewer than 2442 passed this canal, of which, however, only 11 were British. The Stecknitz canal connects the Elbe with the Gulf of Lubec; the others are the Daneskiold in Zealand, and the Odensee in Funen.

Denmark possesses no mines, and scarcely any mineral substances of importance; but agriculture has undergone greater improvements of late years than perhaps any other branch of national industry. The soil is chiefly composed of sand and clay, and the constant humidity of the atmosphere is favourable to vegetation. The pasturages are fresh and luxuriant, and the rearing of stock, particularly horses, is carried on extensively. All kinds of grain common to the latitude of the country, as oats, barley, rye, wheat, and other varieties, are found to succeed. Tobacco, flax, hemp, and hops are cultivated in some districts, and in the gardens, apples, pears, cherries, and hazel-nuts; great quantities of which are exported to Russia. Of the once extensive forests but few remains are now found, and those mostly in Lauenburg, consisting principally of oaks and beeches. To supply the deficiency of firewood, the people make use of turf and seaweed. The fisheries are of considerable importance. Of these the principal is the herring fishery, which is prosecuted on a large scale on the N. E. coast of Jutland, and on the fishing grounds of the Limfjord. The Danes are also actively engaged in the cod fishery of the North Sea, and the Greenland whale fishery.

The government has afforded great encouragement to manufactures; but in no department (except under the protection of exorbitant duties) can the people compete even in their own markets with foreign rivals. The peasants employ themselves in working up their flax and wool into coarse cloths. In Copenhagen there are factories for silk and cotton weaving, constructed on similar principles with those of England; Randers and Odensee are famous for their tanneries and gloves; Tonder for its lace; Frederickswork, Elsinour, and Holbeck for manufacturing large and small firearms. Lauenburg contains soap-works, breweries, and potteries for common Dutch ware; Altona carries on different manufactures; Oldesloe, on the river Trave, is distinguished for its salt-works. Flensburg, a flourishing town, besides manufactories of soap and tobacco, has a considerable number of oil-mills and sugar-refineries.

The commerce of Denmark is inconsiderable, though, from being the key of the Baltic, it possesses peculiar advantages for a ready intercourse with most of the maritime states of Europe. This arises partly from the antiquated manner in which much of the business of the country is conducted, partly from high transit dues, but chiefly from the oppressive imposts which are levied with the view of sustaining the home manufactures. Much attention is, however, bestowed on navigation, and from the economical manner in which it is conducted, the Danes possess a considerable share of the carrying trade of other nations. At present the number of their ships is estimated at upwards of 3700, in burden 143,800 tons.

The exports consist almost wholly of the raw produce of the kingdom and its dependencies. In 1831, their amount was £1,295,011; in 1834, £1,656,771; and in 1836, it was £1,959,116. The chief articles were butter, 66,665 barrels, value £395,052; rapeseed, 93,932 quarters, value £220,368; barley, 224,721 quarters; oats, 86,312 quarters; rye, 75,191 quarters; wheat, 105,000 quarters; horses, 7568; cattle, 36,323; pork, 58,819 cwt.; beef, 26,326 cwt.; herrings, hides, rider-down, train-oil, lubfish, woollen stockings and mittens,—and other articles, the produce of the Faroe Isles, Iceland, and Greenland, £62,050; sugar and rum, the produce of the Danish West India Islands of St Croix and St Thomas, about £12,000. The greater part of the grain exported, and nearly the whole of the rapeseed, are from the duchies. The total number of Danish

vessels which annually depart for foreign countries from all the ports of the kingdom is rather more than 4000; the tonnage being about 230,000. The imports, exclusive of those from Britain and the Danish West India islands, consist of piece goods, tobacco, and colonial produce from Hamburg and Bremen; linen, flax, wood, staves, and timber from Prussia; iron, tar, deals, timber, fish, herrings, and train-oil from Sweden and Norway; hemp, flax, ashes, tallow, seeds, and timber from Russia; piece goods and colonial produce from the Netherlands; and wine, salt, and piece goods from France.

The trade betwixt Denmark and the United Kingdom is insignificant. The declared value of British and Irish produce and manufactures imported on an average of the 10 years 1827-1836, was £101,037; in 1837, the amount was £103,448; in 1838, £181,404; consisting chiefly of iron, coals, and salt, with small quantities of earthenware, cotton twist and yarn, glass, hardware, lead, machinery, &c. The importations of foreign and colonial articles from the United Kingdom in the above period has greatly declined. The exports to Great Britain from Denmark chiefly consist of rapeseed, flaxseed, linseed, tares, wool, corn, pease, beans, hides, and bark. A considerable increase is observable of late years in the importation of wool and rapeseed, now the two principal articles. About 25,000 tons of British shipping (vessels 127) annually arrive in the Danish ports, more than 4-5ths of which enter Copenhagen.

The principal ports are Copenhagen and Elsinour.

Copenhagen, one of the best built cities in Europe, stands on the E. coast of Zealand, in lat. 55° 41' N. and long. 12° 35' E.; pop. 115,000. The walls extend nearly 5 miles, and are surrounded with a chain of bastions and a broad ditch. The harbour, formed by a narrow channel running between the city and the island Amak, is capable of containing 500 vessels, and possesses depth sufficient for ships of the largest size. Exports are principally the produce of the soil, and colonial articles; and the imports are sugar and coffee, chiefly from the island of St Croix, with small quantities of iron, oil, blubber, tar, fish, and fruit. About 1900 vessels arrive annually from foreign ports.

Elsinour, in lat. 56° 2' N. and long. 12° 37' E., stands on Zealand, about 20 miles N. from Copenhagen, at the narrowest part of the strait between the Cattegat and the Baltic, called the Sound; pop. 7122. The harbour is accessible only to vessels of small draught, but the town derives importance from its being the place where a toll is levied by the Danish government on all vessels passing the Sound. [SOUND-DUES.] Above 12,000 anchor in the roads annually for this purpose, the supplying of which with stores forms the principal trade of the place.

The chief other ports are Altona, Kiel, Flensburg, Tonnungen, Aalborg, Kioje, Nostod, Corsoer, Callundborg, and Eckenforde. Many parts of the Danish coast are useless, owing either to the want of deep water, or the numberless banks, bars, and islands which line it. The shores of the islands adjoining the Baltic are also so flat and irregular as to be unapproachable in most quarters by large vessels.

MEASURES, WEIGHTS, MONEY, FINANCES, &c.

Measures and Weights.—The ell of 2 Rhineland feet = 24½ Imp. inches; the mile of 2400 ruthes = 8244 Imp. yards, or 4684 British statute miles.

The Danish acre, or ton of land, forms an area of 14,000 square ells of 2 feet, and from 10 to 25 of such acres are reckoned to each *ton of hard corn*, in proportion to the quality of the soil.

The viertel of 4 kans, or 8 pots = 1.70 Imp. gall.; the hogshhead of 30 viertels = 51 Imp. galls.; the alim of 4 ankers = 33.14 Imp. galls.

The toende or barrel of 8 skieps, or 144 pots = 3.83 Imp. bushels, or 60 barrels = 29 Imp. qrs. nearly; the last of corn contains 12 toendes, or 45.91 Imp. bushels; the last of coals 18 toendes; and the last of oil, butter, or herrings, 12 beer toendes, each of 136 pots.

The shippond of 20 lisponds, or 320 lbs. = 3½ cwt. nearly; and the centner of 100 lbs. = 110½ lbs. avoird. The ship-last is 4000 Danish lbs. The Copenhagen mark of 8 ounces used in weighing gold and silver = 3633 troy grains.

Money.—Accounts are generally stated in rigsbank dollars, each divided into 6 marks, or 96 skillings; but in some of the larger mercantile houses they are kept in Hamburg marcs banco. The rigsbank dollar, coined at the rate of 18½ from the Cologne mark of fine silver (3608 troy grains), is equal to one-half of the old species-dollar, and when of full weight is worth about 2s. 2½d.; the par of exchange with London being 9 R. D. 10 skill. per £1. Nearly all the ex-

change business, however, is transacted through the medium of Hamburg, the par being 800 R. D. for 300 marcs banco, independent of the agio on banco.

The National Bank at Copenhagen, formerly called the Royal Bank, or *Rigsbank*, issues notes for 1, 5, 10, 50, and 100 rigsbank dollars; these are current at a fixed discount for specie, called *rigsbank silver value*, which is adjusted by certain authorities quarterly. The circulating medium consists almost wholly of this paper, and according to recent statements it is now nearly of equal value with specie. The coins or rather tokens of inferior value are marks and skillings.

There is no established usance, but bills are generally made payable on a certain day, and 8 days of grace are allowed.

Finances.—The public revenue, in 1837, amounted to £1,584,133, of which land-tax, £395,890; customs and excise, £416,334; crown property, £181,831; sound-dues, £213,997; other receipts, £376,061. The expenditure in the same year was £1,561,920; including for army and navy, £437,183; interest of debt, £521,065; sinking fund, £97,882.

The public debt on 1st January 1838 was £13,969,035; of which home debt, £7,742,888; foreign debt, £6,226,147. The latter includes a loan raised in London of £4,940,326, bearing interest at 3 per cent., the dividends on which are payable 31st March and 30th September by Messrs Rothschild.

DEPOSITS. [BANK. CURRENCY.]

DERBYSHIRE SPAR. [FLUOR SPAR.]

DERELICT, any thing forsaken or left. It is used to express vessels forsaken at sea, and found without any person in them. Of these the Admiralty has the custody, and the owner may recover them within year and day. An allowance is made for the salvage of derelict vessels, where it has been attended with danger. (*Sir T. E. Tomlins' Dictionary.*)

DESIGNS or patterns for various articles of manufacture may be rendered the subject of copyright, and thus secured, for a limited time, for the exclusive use of the inventor. There is copyright in patterns on linen, cottons, calicoes, or woollens; also on fabrics composed of wool, silk, or hair, and on mixed fabrics composed of any two of the following materials, namely, linen, cotton, wool, silk, or hair.

The privilege exists for three months from the publication (by manufacture or sale), provided the name of the proprietor be printed at each end. (34 & 35 Vict. c. 23; 2 & 3 Vict. c. 13.)

A right extending to one year, and in some cases to three years, is granted in relation to other manufactures, by the act 2 & 3 Vict. c. 17, of which the following is a summary:—

Proprietors of designs for the following purposes, not published before 1st July 1839, are to be entitled to a copyright of one year from the date of registration:—1st, For the pattern or print to be used in or worked on, or printed on, or painted on, any article of manufacture, being a textile fabric; those which enjoy the three months' copyright just stated are excepted. 2d, For the modelling, casting, embossment, chasing, engraving, or for any other kind of impression or ornament, on any article of manufacture, not being a tissue or textile fabric. 3d, For the configuration of any article of manufacture, except lace, and those articles which enjoy the three months' copyright. But every proprietor of a new design for the modelling, casting, or engraving, or any other kind of impression or ornament on any article of manufacture, being of any metal or mixed metals, shall have the sole right to use the same during the year. The proprietor must register his name; and every article published by him, on which the design is used, must have thereon the name of the first registered proprietor, the number of the design in the register, and the date of registration. The author of every design is considered the proprietor, unless he have for a consideration executed the work on behalf of another, who shall be considered the proprietor; and every person purchasing for a consideration shall be deemed to purchase from the proprietor.

The title of a purchaser may be entered on the register. § 3. Any one using the design, without the leave in writing from the proprietor, forfeits not less than £5, or more than £30. § 4. The design may be recovered in England, Scotland, and Ireland; but all proceedings must be instituted within six months after the offence. § 5. Provision made for register of designs by Board of Trade. § 6. Three copies must be sent to the registrar; one to be returned with a certificate, to be filed, and a third to belong to the P. C. Committee of Trade. § 7. The certificate of registration is evidence of the design, &c.

Number of designs registered under this last act, from 1st July 1839 to 31st January 1840, as follows:—1st class, 14; 2d class, 184; 3d class, 46; designs exceeding one folio page, 21; or articles in any metal or mixed metal, 68. Fees, £413.

DEVIATION, in Marine Insurance. It is one of the implied warranties in a contract of insurance, that the voyage insured for shall be strictly adhered to, and if a different voyage is pursued, or that stipulated for is voluntarily departed from, the contract is terminated, and the underwriter is discharged from liability. Deviation does not void the contract, for the underwriter retains his premium, and is liable to all loss up to the point of deviation. Though the loss happen after the ship has returned to her proper course, and though it were distinctly proved that the loss was not caused, or even influenced by the deviation, the insurer would still be liable, for the contract having been terminated by the deviation, cannot become valid again without a new agreement. A deviation is said to be “a voluntary departure, without necessity, from the usual course of the voyage.” It is not to be inferred from this that the vessel must have followed the route that can be proved to be the most direct and expeditious, but that she has followed the usual custom, sanctioned by safety and convenience. “Therefore, the stopping at places in the course of the voyage, though out of the direct line, if it have been customary to do so, is not a deviation, but a part of the voyage” (*Marshall*). Still a few instances where vessels have taken a point out of their direct course will not constitute usage in favour of the practice. If deviation is once proved to have taken place, the smallness of its extent will not justify it. It is not valid if a ship insured, with liberty to touch at a particular port, touches at another. It was formerly maintained that a ship entitled to touch at a port was not bound to trade there, but it has been since held, that if there is no delay, and no increase of risk, trading is not a breach. If there are several ports of discharge, it is not deviation to visit them in an order different from that in which they appear in the policy, and it certainly is so, if the risk is thereby increased. If the first port of discharge be not specifically named in the policy, they should be taken in geographical order. It appears to be no deviation to proceed direct to any one of a set of ports thus insured to, if the others are not visited at all. It is not deviation to touch at a port at which it is not customary to touch, although the ship may first pass it; or, there being several tracks, to select a less safe and eligible one, for the purpose of accomplishing objects foreign to the voyage. Where a ship is insured for a voyage, with liberty to touch “at any one port” of some country, it is to mean a port in the course of the voyage, if the country be so situated as to admit of this interpretation. Unnecessary delay is always a deviation. It

appears to be considered deviation to *prescribe* any one of several tracks to the master. If a specific track is predetermined by the insured, it ought to appear on the policy, and if it do not, the underwriter is entitled to expect that he will have the benefit of the master's choice of tracks, whose duty it is, when he is at liberty so to do, to adopt the best. Though there be an intention to deviate, and instructions given to that effect, the underwriter's responsibility will not be affected till the dividing point is reached, and if the vessel be previously lost, he is liable. Deviation will be justified by necessity, though proceeding from a cause not insured against, as, from stress of weather, want of repairs, desertion or mutiny among the crew, attempt to escape from an enemy, or the taking advantage of an opportunity of joining convoy in time of war. The ship may deviate to be relieved of part of her cargo, if too heavily laden, or to take in additional cargo, where necessary for ballast. Deviation to succour ships in distress is held justifiable on principles of public policy. It is a general principle that deviation will not be justified, if for the purpose of providing against the consequences of a fault of the insured, so as to allow one warranty to be infringed to cover the infringement of another. (*Part*, 437-475. *Marshall*, 174-206.) [INSURANCE.]

DIAMOND (Fr. Ger. & Du. *Diamant*. It. Sp. & Por. *Diamante*), a crystalline mineral, which, on account of its lustre and hardness, is reckoned the most valuable of all gems. It is chiefly found disseminated in gravel, or embedded in sandstone, in India and Brazil, and, according to recent accounts, in the Ural Mountains. It occurs generally in single or in unattached crystals, sometimes with plain, but more frequently with rounded surfaces. The colours are commonly white or gray, sometimes however red, brown, yellow, green, blue, and black; but the two last are rare. Lustre splendid, and internally perfect adamantine. Cleavage, parallel to the sides of an octahedron, which is its primary form, subject however to varieties, and the faces are frequently curvilinear; transparent, but sometimes rendered opaque by foreign substances; refracts single; scratches all known minerals, and can only be cut and ground by its own substance; rather easily frangible; streak grayish. Sp. gr. 3.4 to 3.6. It consists of pure carbon. The finest, called diamonds of the first water, should be perfectly crystalline, resembling in complexion a drop of the purest water. When they fall short of this perfection, they are said to be of the second, third, or fourth water, till the stone may be properly called a coloured one. If yellow, blue, green, or red, in a high degree, they are more in esteem than if tintured with these colours only in a low degree. For ornamental purposes they are cut into rose diamonds and brilliants. The *Rose Diamond* is generally made out of an octahedral crystal; it is quite flat underneath, and its upper part cut in divers little faces, usually triangles, the uppermost of which terminates in a point. The *Brilliant* is generally formed out of a diamond with curvilinear faces; it is cut in that form both at top and bottom; the table, or principal face, at top, being flat. The *Rough Diamond* is the stone in its natural state; it should be chosen uniform, of a good shape, transparent, not quite white, and free of flaws. Black, rugged, dirty, flawy stones, and those unfit for cutting, are however pulverized, and employed to polish others, besides being applied to various uses in the arts; and for such purposes they are in constant demand.

The weight and value of diamonds are estimated in carats, each divided into halves, quarters, eighths, &c. This carat weighs $3\frac{1}{2}$ troy grains, or 205 $\frac{1}{2}$ French decigrammes, and is the only weight considered uniform in all countries. The comparative value of diamonds of equal colour, cleanness, and shape, is estimated according to the squares of their respective carat weights. The average price of *rough* diamonds that are worth working, is £2 for the first carat. Hence the value of a rough diamond weighing 4 carats is £32; because $4 \times 4 \times 2 = 32$. *Cut* diamonds are supposed to have lost half their original weight, and are therefore valued according to the square of double their actual weight. Thus the value of a cut diamond weighing 4 carats is £128; for $8 \times 8 \times 2 = 128$. This rule, however, is inapplicable to those which are above a certain weight,—the ordinary limit being 20 carats. The largest diamond ever known was brought to the King of Portugal from Brazil. It is uncut, weighs 1680 carats, and its value is often quoted, according to the above rule, at £5,644,800. Similar extravagant valuations are applied to the famous Russian one, weighing 779 carats; to the Mogul, weighing, cut, 280 carats; and to others; but it does not appear that any sum exceeding £150,000 has ever been given. The last great sale of jewels was in London on July 20, 1837, for the distribution of the Deccan booty, obtained by the army under the Marquis of Hastings. On this occasion, the magnificent Nassau diamond, weighing 357 $\frac{1}{2}$ grains of the purest water, brought only £7200.

The *glazier's pencil diamond* is a fractured portion, weighing about 1-60th of a carat, and of a trapezoidal shape, set in a wooden handle. Two kinds are now in use, the common pencil, worth 12s., and the patent pencil, worth 18s.

DIAPER (Fr. *Linge ouvré*. It. *Tela testuta a opere*. Ger. *Drell*), a flowered linen fabric commonly used for table-linen, napkins, and other domestic purposes. It is manufactured in Scotland, the north of Ireland, and Germany. Diapers are now also made of cotton, in imitation of the linen goods bearing the same name.

DICE. [CARDS AND DICE.]

DILIGENCE, SUMMARY, a term used in the law of Scotland to express an expeditious process, by which performance of documentary obligations is enforced. It was formerly confined to the Court of Session, but since the 1 & 2 Vict. c. 114, it may proceed before the Sheriff. The document on which it is founded must be registered in the books of the court; and the principle on which execution proceeds is, that a judgment or decree of the court has been given in favour of the holder of the document by consent of the granter. The documents thus privileged are, 1st, Regularly executed contracts, containing a clause authorizing such registration for execution, like the warrant of attorney in England. 2d, Bills and promissory notes properly framed and duly negotiated. The former of these qualifications requires accurate attention to stamp, designation of parties, sum, and place of payment; the latter comprehends presentment, notice of dishonour, and proper noting and protest. To authorize summary diligence, the protest, if for non-acceptance, must be registered within six months after the date of the bill; if for non-payment, within six months after the day of payment.

DIMITY (Fr. *Basin*. It. *Dobletto*), a cotton stuff, similar in fabric to fustian, from which it differs chiefly in having ornaments woven in it, and in not being dyed. Its colour should be delicately white. In the weaving, longitudinal stripes are usually raised just above the surface of the piece, and dimities are called *single corded*, or *broad striped*, according to the flatness and breadth of these stripes.

DISCOUNT is a premium paid for ready money, when, by agreement or the usages of trade, it is understood that credit is given. A bill or note is said to be discounted, when a third party, in respect of the credit of the names on it, agrees to pay its contents to the holder before it becomes due, deducting the interest, and, in some cases, commission for trouble and expense. There are certain penalties and disabilities levelled by the usury laws against pecuniary accommodations on which more than five per cent. of interest is taken [USURY], which still, though to a very limited extent, apply to bills of exchange. A person discounting a bill, if he deduct interest at 5 per cent., receives, as shown below, more than 5 per cent. interest on the accommodation. But it has been the practice, not only to allow discounters of bills to receive more than the 5 per cent. interest in this form, but likewise to allow a small additional sum in name of commission and expenses. The amount has been held matter of inquiry by a jury. $\frac{1}{4}$ th per cent. appears to be the general allowance. 7s. 6d. per cent. has been found usurious where no expense or considerable trouble has been occasioned; but in cases of long and complicated accounts, 10s. per cent. has been allowed (*Chitty on Bills*, 99-104). At the renewal of the bank-charter (3 & 4 Wm IV. c. 98), bills at three months were exempted from the usury laws. The privilege was extended by 7 Wm. IV. and 1 Vict. c. 80, which enacted that, till 1st January 1840, bills and notes at not more than twelve months, or having no more than that period to run, should not be null, and should not subject parties to liabilities, by reason of interest charged in negotiating them. The enactment was continued to 1st January 1842 by 2 & 3 Vict. c. 37.

Discount in Arithmetic is the difference between a sum of money due at a future period, and its present value; and the rule for finding it is this:—As the amount of £100, increased by its interest at the rate and for the time given, is to the given sum or debt, so is the interest of £100, at the rate and for the time given, to the discount of the debt. Thus, to find the discount of £100 for one year at 5 per cent. we have—

$$£105 : £100 :: £5 : £4:15:2\frac{1}{2}$$

which is 4s. 9½d. less than the interest for the same time; the difference being in all cases equal to the interest on the discount for the given time.

Hence the rule adopted by bankers and others in charging discount is not arithmetically correct; for as the true value of the discount is equal to the difference between the sum due and its present worth, it is equal only to the interest of that *present worth*, instead of the interest on the *whole debt*. [INTEREST.]

DITTO, a term derived from the Italian word *detto* (that which has been said), and used in accounts to avoid repetition. It is commonly abbreviated into *Do*.

DIVIDEND, that portion of any joint profit or fund which is given out to be shared or divided. It is usually expressed at so much per cent. or per pound sterling.

DIVIDEND, in Bankruptcy, is used to express the proportion (generally rated at so much per £1) of a creditor's debt, which he receives from the bankrupt estate.

IN ENGLAND and IRELAND, the first dividend is declared at a meeting called and advertised by the commissioners, not less than four or more than twelve months from the issuing of the fiat of bankruptcy. The second dividend is declared at a similar meeting within 18 months after the fiat. [BANKRUPTCY.]

IN SCOTLAND, the first dividend is declared within 14 days after the expiry of six months from the commencement of the sequestration, and paid on the expiry of eight months from the commencement. A dividend is similarly declared and paid at every interval of four months, till the estate is exhausted, or the sequestration terminated. The commissioners may postpone any dividend till the next stated period, giving notice in the Gazette. [SEQUESTRATION.]

DOCK, an artificial receptacle for shipping, the entrance of which is generally closed by gates. There are two kinds :—1st, *Wet-docks*, in which a uniform level of water is maintained, so that the business of loading and unloading can proceed without interruption, whilst the ships, being kept always afloat in still water, and sheltered from the effects of the tides, their hulls, rigging, and cables, are better preserved than in an open harbour or roadstead. 2d, *Dry-docks* or *graving-docks*, used for inspecting or repairing ships, for which purpose they are so contrived that the water may be admitted or excluded at pleasure, in order that a vessel can be floated in by the tide or otherwise, and that the water may run out with the fall of the tide, or be pumped out, the shutting of the gates preventing its return. In London and other ports, the wet-docks are generally surrounded by warehouses, and enclosed by walls ; in this way the greatest facilities are given to the unshipping and warehousing of merchandise, while, at the same time, the vessels and their cargoes are rendered secure from depredation.

I. DOCKS OF THE PORT OF LONDON.

The commerce of London, which had been gradually increasing during the first half of the eighteenth century, outgrew in the second half the existing accommodation for shipping ; and the port, at particular seasons, was often nearly blocked up by fleets of merchantmen, many of them lying at anchor in the middle of the stream, and discharging their cargoes into lighters and barges. The only dock at that time was the Greenland Basin (now the Commercial Dock), on the south side of the river, which was used only by a few vessels in the whale fishery. The warehouse accommodation too was quite insufficient. The quays were frequently covered with sugar hogsheads, piled six or eight tiers in height ; while bales, barrels, boxes, and bags, were to be seen heaped together in the utmost confusion ; and at the seasons when the East and West India fleets arrived, the delay, caused by the want of accommodation, was both harassing and expensive. Along with these defects, there existed an extraordinary system of pillage and depredation, carried on chiefly by lightermen, watermen, and labourers, and, in not a few instances, winked at and shared by revenue-officers, numbers of the crews, and even by the mates and captains ; these again being backed by a host of publicans and receivers on shore.

These abuses led, in 1798, to the establishment of the Thames police, and about the same time to the formation of the docks ; the first being the West India Docks, for the construction of which an act was passed in 1799.

The West India Docks, situated at the "Isle of Dogs," which lies in a bend of the river between Blackwall and Limehouse, were begun in 1800, and by the end of 1802 were sufficiently advanced for vessels unloading. The entire ground occupied by them is about 295 acres ; and the extent of the water area is upwards of 60 acres, capable of containing 500 large merchantmen. There are two large docks ; the north or import dock, used for discharging vessels, having an area of 30 acres, and the south or export dock, for loading them, having an area of 25 acres. These lie parallel to each other, and are divided by a range of warehouses. There are besides two entrance basins, one at Blackwall, 5 acres ; the other at Limehouse, 2 acres in extent ; in addition to which, the Company have purchased the canal cut by the city across the Isle of Dogs, and converted it into a dock for wood-laden vessels. There has been at one time in these docks, on the quays, under the sheds, and in the warehouses, colonial produce amounting to the value of £20,000,000. The capital of the joint-stock company by whom they were constructed is £1,380,000 ; and the speculation has been an exceedingly successful one. Formerly, all vessels engaged in the West India trade were compelled, by the charter granted to the Company, to unload in these docks ; but this regulation is no longer in force.

The London Docks, begun in 1801, and opened in 1805, are situated at Wapping. They consist of a western dock of 20 acres extent, a tobacco dock of about 1 acre, and an eastern dock of seven acres ; the whole, with the warehouses and other erections, forming a magnificent establishment covering 71 acres, and affording accommodation for about 800 ships. The tobacco warehouse covers nearly 5 acres, and can hold 24,000 hhds. There is also cellarage for nearly 70,000 pipes of wine ; one of the vaults having an area of seven acres. The capital stock of the Company is

10, *do.* 10*l.* ; besides which £700,000 were raised by the issue of bonds, 4 per cent. interest.

East India Docks, situated at Blackwall, below the entrance to the West sea, consist of an import dock, of the area of 18 acres, and an export dock of 9 acres ; besides which there is an entrance basin, common of 3 acres. They were originally formed for the accommodation of ships and India trade, but they are now open to vessels from all parts. Capital £22,234, 10*s.* 11*d.*

Commercial Dock, composed in part of the old "Greenland Basin" is at Rotherhithe, and occupies altogether 49 acres, about 4-5ths of which *is*. It is chiefly used by vessels in the corn and timber trades. Capital £12,250 ; besides which, £27,000 were raised by the issue of bonds, bearing at 4 per cent.

East Country Dock, constructed in 1807, has an area of about 6½ acres. It is the Commercial Dock to the south ; and is chiefly frequented by vessels in the European timber-trade. Capital stock, £103,800.

Mersey's Docks, lying immediately below the Tower, are those nearest to

They were begun in May 1827, and partially opened in October 1828, and consist of two basins, each capable of receiving vessels of 800 tons burden. They accommodate for about 150 or 160 ships, besides small-craft ; and cover an area of 1½ acres ; but the whole space, including that occupied by quays and warehouses is about 24 acres. These docks are frequented by vessels in the East of North and South American trades ; and the warehouses are so arranged that they are taken into them at once from the ship. The depth of water at low tide is 28 feet in the lock ; and thus ships of 600 and 800 tons can come in with a certainty of admission ; the arrangements also admit of the ships being docked and undocked by night as well as by day. Capital stock, £60 ; besides which, the Company have raised, by the issue of bonds, £200,000 at 4 per cent., and £500,000 at 4½ per cent.

Grand Surrey Canal Dock is a basin at the entrance of the Surrey Canal at Rotherhithe. There is also the *Regent's Canal Dock*.

11. THE LIVERPOOL DOCKS.

The first commercial wet-dock made in England was formed in 1708 at this port, at a cost of no consideration. It was called the "Old Dock," but having been built on a site now occupied by the custom-house. A second was constructed in the middle of last century. Additions were afterwards made at various times, and the docks of Liverpool now form an immense range, extending about a half mile along the eastern bank of the river Mersey. These have been constructed on a scale of extraordinary magnificence, and form one of those striking instances of commercial greatness for which this town is unrivalled.

The aggregate water area of the docks is nearly 100 acres ; and the quay fronts in length about 7½ miles. The whole, excepting the work called the "New Dock," is in possession of the Duke of Bridgewater's executors, is the property of the corporation of the town, to which they have proved a great source of revenue, having yielded a very large revenue in proportion to the money expended in their construction. This has arisen partly from their never having had to make any payment for the purchase of land, partly from their having avoided the expense of building warehouses, but chiefly from the labour of excavating being in a great measure saved, owing to their area having been enclosed from the river.

TABLE SHOWING THE WATER AREA AND LENGTH OF QUAY SPACE OF THE LIVERPOOL DOCKS.

I. Wet Docks.	Water area.	Quay length.	II. Dry Basins.	Water area.	Quay length.
	<i>Acres.</i>	<i>Yards.</i>		<i>Acres.</i>	<i>Yards.</i>
Old dock and lock ..	29 313	914	Union dock.	9 943	403
East India basin.	17 606	500	Commercial do.	27 672	872
East dock and lock	31 705	1 112	Total	46 215	1 948
East do.	33 747	1 036			
do ..	29 187	839			
do ..	27 119	1 013	Prince's basin.	30 910	300
do ..	36 794	1 011	Blackburne do.	1 110	100
do ..	14 065	500	George's do.	16 372	455
East do.	13 025	720	George's Ferry do.	1 364	100
do ..	37 776	875	Old dock and lock	7 737	447
do ..	61 309	1 945	Queen's basin.	24 301	001
East do.	12 105	457	St. George's Ferry do.	2 107	306
Old do.	60 804	1 800		72 485	2 306

The Clarence, Trafalgar, and Coburg Docks are appropriated to the accommodation of steamers, the last being exclusively for the use of the Transatlantic and Mediterranean vessels.

The following is a statement of the number of vessels by which the docks have been frequented in different years, taken at intervals, and their aggregate tonnage; also the amount of dues collected thereon, and on the goods loaded and unloaded from the same. The progressive increase which it exhibits in the trade of Liverpool since the middle of last century, is, we believe, unexampled in the history of commerce :—

Years.	Vessels.	Tonnage.	Dues.	Years.	Vessels.	Tonnage.	Dues.
1752	....	....	£1,776	1810	6,729	734,301	£63,722
1760	1,245	....	2,330	1815	6,440	709,849	76,915
1770	2,073	....	4,143	1820	7,276	806,033	94,413
1780	2,261	....	3,528	1825	10,837	1,223,820	128,629
1790	4,223	....	10,037	1830	11,214	1,411,964	151,330
1800	4,746	450,060	23,380	1835	13,941	1,768,426	217,225
1805	4,618	463,482	33,365	1840	15,908	2,445,708	197,478

The dock-dues are now extremely moderate, a great reduction having taken place in the year 1836.

By an act passed in 1825, the management of the docks is vested in a committee of 21 members, of whom 13 are appointed by the corporation, and 8 are elected from their own body by those merchants who pay each not less than £10 a-year in rates.

III. DOCKS AT OTHER PORTS OF THE UNITED KINGDOM.

The docks at the other ports, though much inferior in point of extent to those of London and Liverpool, are still works of great national importance. The principal are those of Bristol, Hull, and Goole, Leith, and Dundee.

The Bristol wet-dock is of a character different from those of London and Liverpool, being formed by digging a new course for the river Avon south of the city, and converting the whole of the old channel into one floating harbour, about 3 miles in length. It was commenced in 1804, and opened in 1809. The quays enclose one end of the city, and form 3 sides of a parallelogram; and there are two basins for the temporary accommodation of vessels entering or quitting the harbour. The estimated expense of the dock was £300,000, but its actual cost was about £600,000. It was constructed by a company whose present capital consists of 2209 shares of £147 each; besides which a debt was contracted of £268,342, bearing interest at 5 per cent. The maximum dividend which the company are permitted to draw is 8 per cent., but it has seldom exceeded 2 per cent. The management is vested in 27 directors, of whom 9 are chosen by the proprietors, 9 by the ancient guild of merchant venturers, and 9 by the corporation of the city, in whom the dock is vested after payment of the debt and capital.

Hull possesses 3 wet-docks, which occupy the site of its ancient fortifications; the Old Dock, formed in 1775; the Humber Dock, begun in 1807; and the Junction Dock, connecting the two preceding, which was commenced in 1826, and completed in 1829. The area of the quays is 15,643 sq. yds.; the locks are 120 feet long, 36 feet broad, and 25 deep; and the whole water area of the three is about 26 acres, affording accommodation for 300 vessels; but this being insufficient for the increasing trade of the port, farther works are in contemplation. Attached to the Humber Dock, which is situated at the west part of the town, is a capacious basin with its piers. At *Goole*, a new port, situated near the junction of the Ouse with the Humber, about 22 miles more inland than Hull, there are two wet-docks, one adapted for sea-going vessels of considerable burden, the other for the small-craft which navigate the rivers and canals.

Leith has two wet-docks, one opened in 1806, the other in 1817, each of which is about 300 feet wide, and between 700 and 800 feet long; their joint water area is about 10 acres, and they are capable of accommodating nearly 150 vessels of the size which usually enter the port. Such as draw 17 feet water can be admitted at spring-tides, but at other times the depth of the dock-sill is seldom above 14 feet. They are surrounded by well-constructed quays, upon which are erected appropriate warehouses; and there are two commodious dry-docks, for the building and repairing of ships. The whole cost of the docks was £268,993, mainly consisting of advances by government, to whom £228,374 still remains due; though, by a late arrangement (1 & 2 Vict. c. 55), they have allowed £125,000 to be raised, and preferably secured over the dues, for the erection of additional

Besides these two wet-docks, Leith possesses a tide-harbour or basin. The management of the whole is vested in 11 commissioners, of whom 5 are appointed by the Treasury, 3 by the town-council of Leith, and 3 by the town-council of Edinburgh. The port-dues annually levied on vessels and goods amount to £100,000: but the total revenue of the commissioners, including warehouse-fees, and ballast-dues, is about £26,500.

Leith possesses at present two wet-docks, King William's, of 6½, and Earl of Leith, of 5½ acres. The breadth of the lock of the former (to which is attached a graving-dock) is 40 feet; of the latter 55 feet, being made of this to admit steamers. Connected with these two docks, there is a tide-harbour of 4½ acres. A third wet-dock, of 14½ acres, is now nearly finished, the length of which is 60 feet; and the harbour plan embraces another of 9½ acres, with a basin between the two latter, of 11 acres in extent. The debt created by the execution of these works amounted, at 30th May 1840, to £230,194. The management of the whole is vested in a parliamentary commission; and the annual amount of their revenue is about £16,700.

The great public dockyards of this kingdom are situated at Chatham, Devonport, Portsmouth, and Plymouth, but a description of these magnificent arsenals does not fall within our plan. They mostly contain grand basins, in which vessels are received with all their standing and running rigging; building-slips, for repairing, rope-house, anchor-wharfs, an anchor-forge, a copper-sheathing yard and mills; block, mast, sail and rigging, and other storehouses,—in all that is requisite for the construction, equipment, armament, and refitting of ships of war. [PORT.]

DOCKET, in *English Law*, signifies a brief in writing. In trade the term is applied to a short certificate, summary, or memorandum.

DOCKET in the *Bankruptcy Law of England*. When the petitioning creditor appears in the Bankrupt Office his affidavit of the debt, the act of bankruptcy, and the bond undertaking to pursue the bankruptcy, entry is made in a book called "Docket Book," and the petitioner is said to have thereby "struck a docket." [BANKRUPTCY.]

DOG, a well-known quadruped (*Canis vulgaris*, Linn.) varying greatly in stature, colour, and the quality of the hair. Its period of gestation is 63 days, and its whelps, which often amount to 8 or 9, are born blind, and do not see till after the age of 10 or 11 days. The growth of the animal is complete at two years; at the expiration of 5 years it is considered old, and the limits of its existence rarely exceed twenty years. No trace of the dog is to be found in a primitive state of nature; and its parent stock is by many supposed to be the jackal or wolf, partly the last, to which in many respects it has a strong affinity. "The dog is the most singular, the most complete, and the most useful animal that man has made. The whole species is become our property; each individual is entirely devoted to his master, adopts his manners, distinguishes and guards his property, and remains attached to him even unto death; and all this is not from mere necessity, not from constraint, but simply from *reconnaissance* and a true friendship. The swiftness, the strength, and the highly developed sense of smelling of the dog, have made him a powerful ally of man against the wild animals, and were perhaps necessary to the establishment of society. It is by no means the only animal that has followed man over all the earth." This account, however, is solely to the animal as it exists in Europe and America. By Mohammedans and Hindoos it is regarded as impure, and neither will touch one without an unclean word; they are, therefore, unappropriated, and prowl about the towns and villages, devouring the offal, thus performing the office of scavengers. In China, Japan, and the Society Islands, and other places, it is used as food, and puppies are considered a great delicacy.

Following is a list of the duties payable on dogs in this country, to which 10 per cent. was added by the late act 3 Vict. c. 17:—

For every greyhound	£1 0 0	Persons compounding for their hounds
For every hound, pointer, or setting spaniel, lurcher, or terrier; and for every dog, where two or more are kept, of whatever denomination they may be, except greyhounds	0 14 0	are to be charged
For every other dog where only one is kept	0 8 0	£36 0 0
		<i>Exemptions.</i> —Dogs wholly kept and used in the care of sheep or cattle, provided they are not of the descriptions chargeable with the duties of £1 and 14s. above mentioned; also dogs under six months old.

DOGGON, a kind of vessel used by the Dutch in their fishings, which is similar to the GALLIOT; some have but one mast, others two.

DOLLAR, the most common silver coin in the world, and particularly in the western hemisphere, throughout the greater part of which it is likewise the integer of account. It is coined in various states, but the general type of the whole is the Spanish dollar, which is minted at the rate of $8\frac{1}{2}$ to the Castilian mark (= 3550 $\frac{1}{2}$ troy grains) of silver, of the fineness of $10\frac{1}{2}$ dineros, that is $10\frac{1}{2}$ parts fine out of 12. It accordingly weighs 417·70 troy grains, and contains 374·19 troy grains of pure silver; and, reckoning British standard silver at 5s. per ounce, is worth, when of full weight, 4s. 2 $\frac{1}{2}$ d. sterling; but its more general value, as deduced from assays, is 4s. 2d., the rate assigned to it in the proclamation issued by our government on 21st September 1838, for regulating its circulation in the West Indies. This coin is sometimes called the "hard dollar" (*peso duro* or *fuerte*); and the term "pillar dollar" is frequently applied to the pieces coined in Mexico since 1772, from their being impressed on one side with the arms of Spain placed between two pillars. The dollar is still minted at the rate of $8\frac{1}{2}$ to the mark, in all the Spanish-American republics, except the Colombian. That of the United States is of nearly the same value, 4s. 2 $\frac{1}{2}$ d., containing 371 $\frac{1}{2}$ grains of pure silver. The German and Italian dollars are in value rather less.

The dollar, being the shape generally communicated to silver in the mining countries, is one of the commonest forms in which that metal occurs in the markets of the world as bullion; and hence its almost universal circulation. But although nearly all the American dollars are of the same intrinsic value, they are not accounted as such in trade, a higher rate being generally given for the Spanish or pillar dollar, from its being that best known, and most readily taken by traders in semi-barbarous countries. Thus at Canton, where the circulating medium consists almost entirely of dollars, none but the Spanish or pillar dollar is received by the Chinese merchants.

In several of the South American States the dollar of account is, in their internal trade, reckoned in small base coins; in others, as in Buenos Ayres, it is of still less value, from being estimated in depreciated paper.

DOMETT, a thin kind of flannel, of which only the weft is wool, the warp being composed of cotton. It is chiefly used by the poorer classes; also for shrouds and the lining of coffins.

DOONCHA, an Indian plant (*Æschynomene cannabina*) cultivated in Bengal on account of its fibres, which, though coarse, are much employed there in making cable-ropes. These are generally used in India for the drag-ropes of fishing-nets, but they appear to be of too perishable a nature for the rigging of ships.

DOUBLOON, the most common Spanish and American gold coin. It is of the same weight as the DOLLAR, being minted at the rate of $8\frac{1}{2}$ to the Castilian mark, 21 carats fine. It therefore weighs 417·70 troy grains, of which 365·49 grains are pure; and its value, when of full weight (estimating British standard gold at £3, 17s. 10 $\frac{1}{2}$ d. per oz.), is £3, 4s. 8 $\frac{1}{2}$ d.; but its more general value, as deduced from assays, is only £3, 4s. 1d., or £3, 4s. The latter is the rate assigned to it in the proclamation issued by our government on 21st September 1838, for regulating its circulation in the West Indies. There are also half and quarter doubloons of proportional value. This coin being the form generally given to gold in the mining countries of S. America, is, like the dollar, extensively circulated as bullion.

DOWLAS, a coarse linen fabric.

DOWN, the soft fine feathers from the breasts of birds, particularly of the duck kind. The most valuable is *eider-down*. It is plucked by eider-ducks from their breasts, in order to line their nests; and is generally obtained by the plunder of these nests. The quantity afforded by one female during the period of laying is stated to be half a pound, after being cleansed. Its lightness and elasticity are said to be such, that 2 or 3 lbs. of it, squeezed into a ball which may be held in the hand, will swell out so as to fill a case large enough for the foot covering of a bed. Large quantities of eider-down are collected in the Danish colonies in Iceland and Greenland, and sent to Copenhagen, from whence it is exported. It is also gathered on the coast of Norway, and some parts of Sweden. According to Captain James Ross, much of what is called eider-down is obtained from the *ring-duck*; it is, however, equally good.

DOW, or **DAU**, a kind of vessel navigated by Arabs, which is met with all over the Indian Ocean. It varies in size from 5 to about 350 tons, and is extremely sharp at the bow, the deck being at least one-third longer than the keel. The planks in the smaller ones are sewed together with coir-rope; the seams are calked with cocoa-nut husks; and the bottom is covered with a composition consisting of lime and oil or tallow, which hardens under water, and protects the

from marine worms. They have a single mast, stepped a little ahead of the mainmast and raking forward, upon which is set a coarse square-sail. They have an anchor on the stern; the rudder is very large, and often secured by ropes only. **DRAB**, a woollen fabric, generally woven thick and double milled, being chiefly used for greatcoats.

DRACHMA, DRACHM, or DRAM, an ancient Greek weight, equivalent, according to Paucton, to 69 troy grains; also the principal silver coin, and money of account, of the new kingdom of Greece, where its weight is that just mentioned, and its value about 8½d. sterling.

In the British system the term dram is applied to two weights,—in apothecary's weight to the one-eighth part of the troy ounce, or 60 troy grains; and to the one-sixteenth of the avoirdupois ounce, or 27½ troy grains; the latter, however, is not used.

DRAFT, or DRAFT, a small commercial allowance or deduction, now nearly obsolete. [**TARES.**]

DRAFT, a term sometimes applied to a bill of exchange or bank-cheque.

DRAGON'S-BLOOD, (Fr. *Sang-dragon*. Ger. *Drachenbluth*. Hind. *Hera-Palembang*, *Jareman*;) a peculiar resinous colouring principle mixed with gum and other matters, is a dark red, inodorous, and insipid substance, obtained from the surface of the ripe fruit of several species of palm (*Calamus*) indigenous to Hindostan, Cochin-China, and the Eastern Islands, especially Sumatra, the islands of Jambi and Palembang, in which, and at Banjarmassin in Borneo, dragon's blood is principally obtained. It is exported in considerable quantities to Europe and India; also to Europe, to which it is sent in the form of drops or *tears*,—the former being made of reeds or rods from 12 to 18 inches long, about the thickness of the thumb, and covered with the fronds of the palm wrapped round it with split branches. The latter is the best. Other kinds are procured in India, Madeira, and near Carthagena in S. America; these chiefly occur in masses of a violet colour, and are obtained from other trees besides that already mentioned, mostly the *Dracæna Draco*, or *Pterocarpus Draco*, (Linn.); while a spurious sort is often made with copal, olibanum, turpentine, and gum-senegal, dyed with various substances. Dragon's blood is employed as a colouring matter, an ingredient in varnishes, and in the preparation of tooth-powders; it is now seldom used as a medicine.

DRAWBACK, a term used in reference to those duties of customs or excise which are repaid by government on the exportation of the commodities on which they are levied. This repayment is made to enable the exporter to sell his goods in the foreign market unburdened with duties. An account of the laws and official regulations respecting drawbacks will be found under the heads CUSTOMS REGULATIONS and DRAWBACKS.

DRAWER AND DRAWEE, in the law of bills of exchange. The former is the person from whom the direction to pay emanates: the latter is the person to whom he directs to pay, or on whom he draws. The expression drawee is correctly applicable only between drawing and acceptance. The drawer's name must appear on the bill, either in the body of it or at the end; and his liability as a party to the bill is completed by delivery to a payee. A drawer, like an acceptor, is responsible for the sums which may be filled into blanks in stamps to which he puts his name. A drawer is liable against whom recourse is to be preserved, ought to have notice of non-acceptance or non-payment. In accommodation bills, notice is not requisite, and the drawer may, by his own act, dispense with notice, as, where he has said he will accept, or where he is the acceptor, and so on if a bill has been paid (*Chipsen v. Kneller*, 4 Camp.). The drawer is liable to a person paying *supra protest*. (*Bayley. Chitty.*) [**OF EXCHANGE. NOTICE.**]

DRY-GUT, a slight stuff sometimes made of wool, sometimes half of wool and half of cotton thread, corded or plain, generally the last. It is manufactured chiefly in Lancashire.

DRY-ROT, a disease affecting timber, particularly the oak, employed in ship-building. It is generally produced by fungi; and it is said that any of those that are commonly found upon decaying trees are capable of producing the disease. The circumstances that are most favourable to the development of the dry-rot fungi are unventilated situations, and a subacid state of the wood; the last being produced, especially in oak, by a slight fermentation of the sap which remains in the timber, especially if the latter has not been well seasoned before being used. The first sign of the evil is the appearance of small white points, beneath which a net-like substance radiates parallel with the surface of the timber; the next being the first stage of growth of the seeds in the fungus, the latter

their thallus or spawn. These last gathering strength thrust asunder the tubes from which the wood is organized, and completely destroy the cohesion of the tissue; and the total ruin of the timber speedily ensues where circumstances are favourable to the growth of the fungi. The prevention and cure of dry-rot is of great importance in reference to our shipping; and various joint-stock companies have been formed for the purpose of subjecting timber to preventive solutions. According to Mr Kyan, timber steeped in a solution of corrosive sublimate cannot become a prey to dry-rot, so far as that disease is produced by a fungus.

DUBBER, a kind of vessel or jar made of thin untanned goat-skin, which is generally used in India to contain oil, ghee, and other liquids. Dubbers are of almost every variety of size.

DUCAPE, a plain wove stout silken fabric of softer texture than gros de Naples.

DUCAT, a gold coin common on the Continent, especially in Germany, the general value of which is about 9s. 4d. The Neapolitan ducat, however, is a silver coin worth only 3s. 3½d.

DUCK. [POULTRY.]

DUNNAGE, a name given to the pieces of loose wood placed on the bottom and sides of a ship's hold, either to support the cargo, so that the vessel may be properly ballasted, or to prevent injury from leakage.

DUTCH-LEAF, a brass substance used for making trinkets.

DUTCH-RUSH, or **HORSE-TAIL**, a hollow-stemmed leafless plant (*Equisetum hyemale*) with a cuticle composed of pure siliceous matter, which gives it a hard surface that makes it useful for polishing wood and metal, a purpose for which it is extensively used. It is generally imported from Holland.

DUTY, a general name for a tax or impost.

DYE-STUFFS. An account of these will be found under their appropriate heads. See also the article **COLOUR TRADE**.

E.

EAGLE, the principal gold coin of the United States, weighs 258 troy grains, 9-10ths fine, and contains 232½ grains pure; and, estimating British standard gold 11-12ths fine at £3, 17s. 10½d. per ounce, is equal £2, 1s. 1½d. sterling nearly. The half-eagle, the most common gold coin of the States, is of proportional value. The eagle is a legal tender for 10 dollars; hence, the value of the dollar of account, reckoned in gold, is 4s. 1½d. sterling nearly.

The preceding is the value of the eagle according to the act of Congress of June 28, 1834, as modified by the subsequent act of January 18, 1837. As the former of these acts, however, produced an alteration which has exercised an important influence over the monetary affairs of the Union, it will be proper to explain shortly its nature and effect.

According to an act of Congress of April 2, 1792, the weight of the eagle (of 10 dollars), was fixed at 270 troy grains, and its contents in pure gold at 247½ grains; the weight of the dollar at 416 grains, and its contents in pure silver at 371½ grains. The weight of pure gold in the eagle was thus precisely 2-3ds of that of silver in the dollar, and the relative value of gold to silver was therefore as 15 to 1. This being, at least after the resumption of specie payments by the Bank of England in 1819, an undervaluation of gold in respect to silver, all payments were made in the latter, in which the value of the dollar of account, equal to that of the coin, was 4s. 2½d. sterling. But the act of June 28, 1834, reversed this system, by reducing the amount of pure gold in the eagle to 232 grains, while it was still preserved as a legal tender for 10 dollars. No alteration having been made on the silver coin, the relative value of gold to silver became then nearly as 16 to 1, in place of 15½ or 15¾ to 1, its true proportion. This was an undervaluation of silver which led speedily to its withdrawal from circulation, and to the general employment of gold, in which the value of the dollar of account was 1-10th of the new eagle, or only 4s. 1½d. sterling.

Under the act of January 18, 1837, the quantity of alloy in both the gold and silver coins was adjusted at the 1-10th part, but no change was made on their value, farther than a small fractional addition of pure metal to the gold coin, amounting in the eagle to only ¼th of a grain.

The practical effect, therefore, of the late alterations has been to lower the intrinsic value of the gold coin about 6½ per cent., to substitute gold for silver as a medium of exchange and measure of value, and to reduce the general money standard of the Union nearly 1½ per cent., the difference in value between the former and the present dollars of account.

EARNEST, the delivery at the time of entering on a contract by one of the contracting parties to the other, of some portion of the matter or consideration of the contract, in token that it is finally agreed upon between the parties. Thus, the person whose part in the contract it is to pay, gives a small sum, and the person whose part it is to convey goods, gives a small portion of the goods in question. A common instance is in the case of hired servants who receive a small sum or portion of wages as earnest. By the statute of frauds (29 Ch. II. c. 3, § 17), no contract for the sale of goods or merchandise in England to the extent of £10 is good without a written memorandum, unless the buyer receive part of the goods, or give something in earnest or part payment.

EARTHENWARE, a term generally applied to all utensils composed of earthen materials. In reference to chemical constitution, there are two kinds : *Porcelain*, consisting of a fusible earthy mixture, along with an infusible, which, when combined, are susceptible of becoming semi-vitrified and translucent in the kiln ; and *Pottery*, an infusible mixture of earths, which is refractory in the kiln, and continues opaque. The latter comprehends several sub-species, which graduate imperceptibly into each other, as stoneware, earthenware proper, flintware, fayence, delftware, and ironstone china. The term pottery, however, is sometimes applied distinctively to the brown stoneware, made into jugs and other articles, porous vessels, and the red pans and pots in common use.

The formation of earthen vessels is an art of the very highest antiquity ; and it is one which probably was carried to greater perfection than any other of the manufactures of the ancient world. It is also one which has been found in a considerable degree of forwardness in all newly discovered countries possessing the raw material,—even among people comparatively rude and unacquainted with most of the other arts which conduce to human convenience. In China, it was carried to very nearly the degree of excellence which their porcelain now exhibits many centuries before it was practised with much skill in Europe. From Asia it was brought to Greece, especially Corinth, the potters of which displayed such exquisite taste and skill, that their works were amongst the most valuable decorations in the dwellings of princes. The Greeks introduced their improvements into Egypt ; and a Phœnician colony is supposed to have founded the ancient Etruria, whence modern Europe has drawn models of skill and beauty.

The Romans improved the art of pottery in this and many of the other countries which they conquered ; but the manufacture, nevertheless, continued stationary until a comparatively recent period, and the wealthy were supplied with porcelain almost exclusively from China. At length, however, the royal establishments of Sèvres, Dresden, and Berlin, produced wares which became the admiration of Europe ; yet they never circulated throughout all ranks, nor effected any general change in domestic life, being limited to the use only of the noble and the rich.

In England, the manufacture of earthenware has been established from the remotest period of history, particularly in Staffordshire, where indeed the Romans are said to have had potteries ; but until the beginning of the eighteenth century, it was confined to a few objects of the commonest description. In 1690, various improvements were introduced by two brothers, named Elers, who came from Nuremberg ; and about 30 years later, a person called Astbury first made white stoneware, by the adoption of calcined flints in its composition. This step was of consequence in preparing the way for the far greater advances afterwards (1760) accomplished by Mr Josiah Wedgwood (born 1730, died 1795), by whose discoveries and exertions the wares of Staffordshire were not only brought into general use in this country, to the exclusion of all foreign goods, but English pottery has since been sought for throughout the civilized world, and adopted even in places where the art was formerly prosecuted. “ Its excellent workmanship, its solidity, the advantage which it possesses of sustaining the action of fire, its fine glaze impenetrable to acids, the beauty and convenience of its form, and the cheapness of its price, have given rise to a commerce so active and universal, that, in travelling from Paris to Petersburg, from Amsterdam to the furthest part of Sweden, and from Dunkirk to the extremity of the south of France one is served at every inn with English ware. Spain, Portugal, and Italy are supplied with it ; and vessels are loaded with it for the East Indies, the West Indies, and the continent of America.”

The district in Staffordshire wherein the English earthenware is chiefly manufactured, distinguished by the general appellation of “ The Potteries,” is situated on the borders of Cheshire, commencing at the village of Golden Hill, and extending more than seven miles to Lane End, and comprising the intermediate places of Newfield, Smithfield, Tunstall, Longport, Burslem, Cobridge, Etruria (the seat of Mr Wedgwood’s establishment), Hanley, Shelton, Stoke, Lower Lane, and Lower Delf. These were all formerly distinct villages, but the increase of the manufacture has led to the erection of so many new works, that their individuality is now lost, and the whole presents the appearance of one large town. The manufacture in England, however, is far from being restricted to Staffordshire. Porcelain has long been made at Derby and at Coalport in Shropshire, while more lately it has risen to high excellence in the city of Worcester, at Rockingham, and at

* Travels in England and Scotland by E. Faujas de Saint Fond, vol. I. p. 97.

Swinton near Rotherham. The Lambeth stoneware is perfect in its kind ; and establishments for making the commoner sorts are to be found in many parts of the kingdom.

“ The better kind of pottery, called in this country Staffordshire-ware, is made of an artificial mixture of alumina and silica ; the former obtained in the form of a fine clay, from Devonshire chiefly ; and the latter, consisting of schist or flint, which is heated red-hot, quenched in water, and then reduced to powder. Each material, carefully powdered and sifted, is diffused through water, mixed by measure, and brought to a due consistency by evaporation ; it is then highly plastic, and formed upon the potter's wheel and lathe into various circular vessels, or moulded into other forms, which, after having been dried in a warm room, are enclosed in baked clay-cases, resembling handboxes, and called *seggars* ; these are ranged in the kiln so as nearly to fill it, leaving only space enough for the fuel ; here the ware is kept red-hot for a considerable time, and thus brought to the state of *biscuit*. This is afterwards *glazed*, which is done by dipping the biscuit-ware into a tub containing a mixture of about 6 parts of litharge, 10 of clay, and 20 of ground flint, diffused in water to a creamy consistence, and when taken out, enough adheres to the piece to give a uniform glazing when again heated. The pieces are then again packed up in the seggars, with small bits of pottery interspersed between each, and fired in a kiln as before. The glazing mixture fuses at a very moderate heat, and gives a uniform glossy coating, which finishes the process, when it is intended for common white ware.

“ The patterns upon ordinary porcelain, which are chiefly in blue, in consequence of the facility of applying cobalt, are generally first printed off upon paper, which is applied to the plate or other article while in the state of biscuit ; the colour adheres permanently to the surface when heat is properly applied.

“ The manufacture of porcelain is a most refined branch of art ; the materials are selected with the greatest caution, it being necessary that the compound should remain perfectly white after exposure to heat ; it is also required that it should endure a very high temperature without fusing, and at the same time acquire a semivitreous texture, and a peculiar degree of translucency and toughness. These qualities are united in some of the Oriental porcelain, or China, and in some of the old Dresden, but they are rarely found co-existent in that of modern European manufacture. Some of the French and English porcelain, especially that made at Sèvres and at Worcester, is extremely white, and duly translucent, but it is more apt to crack by sudden changes of temperature ; more brittle, and consequently requires to be formed into thicker and heavier vessels ; and more fusible than the finest porcelains of Japan and China.” (*Brand's Chemistry.*)

The annual value of the manufacture in this country may be estimated at £2,500,000, about two-thirds of which is produced in Staffordshire ; and nearly the whole of this large amount consists of the labour and skill bestowed on the goods, as the value of the raw material is trifling. This manufacture is besides distinguished by other peculiarities. The Potteries' district being situated in one of our most inland counties, occasions the employment of an immense quantity of inland carriage by canals and otherwise, both for the raw materials and finished goods ; while every ton of the former produces several tons of merchandise for shipping, the freight being paid, not upon the weight, but according to the bulk ; and scarcely a vessel leaves any of our great ports, whose lading is not in part made up of these cheap, bulky, and, for these reasons, valuable articles, to this maritime country. The total declared value of the goods annually exported is now about £700,000 ; but the real value is said to be about one-fourth more. Nearly one-half of these shipments is to the United States ; the remainder is diffused pretty equally over all the other portions of the globe with which Great Britain has trading relations. [PORCELAIN.]

EASTERN OR MALAYAN ISLANDS, an archipelago lying betwixt the continents of Asia and Australia, and stretching from the W. extremity of Sumatra to the island of Papua or New Guinea ; nearly all of them, with the exception of the Philippines, being situated within 10 degrees of the equator on each side. Among them are 2 islands of the first rank and size, viz. : Borneo, and Sumatra ; of the second rank, Java ; of the third, Celebes, Luzon, and Mindanao ; and of the fourth rank, Bali, Lombok, Sumbawa, Jindana, Flores, Timor, Ceram, Booro, Gilolo, Negros, Samar, Mindoro, Panay, Leyte, and Zebu. The smaller ones are numberless. Population vaguely estimated at 15,000,000.

The Eastern or Malayan Islands are the only portions of Asia situated under the equator, and like other tropical countries, enjoy heat, moisture, and a luxuriant vegetation. They are throughout of a mountainous nature, and the principal chains volcanic. There is a general uniformity in climate and in productions ; but on a closer view it is found that the western and eastern divisions possess distinct characters. In the western division, the productions are of a higher order of utility, and rice forms the principal food of the inhabitants. The eastern is less fertile, and the inhabitants derive their chief sustenance from the pith of the sago tree. The portion of the latter, however, betwixt long. 124° and 130° E. excels in the finer spices ; and in this part the character of the monsoons is reversed ; the easterly monsoon being here rainy and boisterous, and the westerly, dry and temperate. There are two aboriginal races of inhabitants in the archipelago ; a brown people, with lank hair, inhabiting chiefly the W. division ; and a negro race, black, with frizzled hair, inhabiting chiefly the E. division ; the former displaying nearly the same superiority over the latter that the whites do over the negroes of Africa. The women of these islands, more especially of Java, are, on shore, almost the sole merchants and brokers, the men interfering little, particularly with retail business. The Wadjo-Buggesses are the chief carriers of the archipelago.

departments of commerce are conducted by foreigners, mostly Chinese, European descendants, and natives of India and Arabia. Of the Asiatic traders, the Chinese are the most useful, and appear to stand nearly in the same relation to the natives that the barbarians of Europe in the middle ages; the advantage in respect of treatment is ever, decidedly in favour of the former.

Eastern Islands, and more especially the Moluccas, or Spice Islands, have, at different periods, been the subject of rivalry and contention among the Portuguese, English, Spanish, and the Portuguese having, by degrees, been shorn of their maritime power, and the attention of the English gradually absorbed by their immense empire on the continent of India, these islands (excepting the English settlements in the Straits of Malacca), have long been occupied by the Spanish and Dutch. The Spanish possessions are the Philippines. The Dutch have subdued Java, the Moluccas, and some others, and hold military occupation of leading islands throughout the archipelago, over the whole of which indeed, excepting the Philippines, they claim a kind of sovereignty. The Dutch possessions are divided into seven governments; the seat of the governor-general, and Sumatra, Amboyna, Banda, Ternate, Macassar, &c. During the last war, the British deprived the Dutch of Java and their other principal possessions; but the whole were restored at the peace in 1815; and in 1825, Bencoolen and British settlements in Sumatra were exchanged with the Dutch for Malacca. Java, since the possession of the British, was materially improved, and its restoration has ever been maintained, both on account of the intrinsic value of the colony itself, and of the admirable situation of its capital, Batavia, as an emporium for the whole archipelago.

Commerce is universally diffused throughout the Eastern Islands, and in 1818 the total produce, in value, of the Malay peninsula, was estimated at 154,815 ounces, or £658,176. It is most abundant in Borneo, then in succession in Sumatra, Celebes, and Luzon; silver, as an article of commerce, scarcely exists; iron is also rare; copper ores are found in Sumatra, Timor, and at Borneo. Banca possesses tin mines which appear to be inexhaustible; they are worked and employed by the Dutch. Of late years the supply of tin from these mines has been augmented, and, after fully supplying the markets of India and China, a large quantity is exported to Europe, where it has lessened the demand for Cornish tin. On the south-eastern coasts of Borneo the diamond is found. The vegetable productions are of the most varied kinds, many of them are common to all tropical countries, but not a few are peculiar to the islands alone. Java is accounted the rice granary of the archipelago, and it besides produces coffee and sugar in large quantity, with some indigo. Black pepper is produced in greater abundance in Sumatra, particularly the west coast, than in all the rest of the world. The nutmeg is produced throughout almost the whole of the Moluccas; but the avaricious policy of the Dutch has been successful in confining it to the small group of the Bandas, and the clove to the island of Celebes, where they are both preserved as government monopolies. The chief other productions of the islands and the adjoining seas are timber, bamboos, rattans, antimony, camphor, ripang, bird-nests, shark-fins, and tortoise-shell. The fisheries are valuable, particularly in the seas of the western parts of the archipelago.

Commerce of the Eastern Islands is considerable. An intercourse has always subsisted between the remote maritime nations of Asia, but the most extensive has always been with China. Inter-course with Europeans is effected chiefly through the medium of Batavia and Singapore, the great emporiums of the Eastern Islands. The imports received from China in exchange for the productions of the archipelago consist principally of tea, cotton stuffs, and porcelain, all of the best quality; and from Europe, cotton manufactures, particularly chintzes of moderate price, and gaudy patterns, white cottons, cambrics, and imitation bandanas; also light cheap cloths of showy colours, and low-priced glassware, mirrors, and earthenware. Under the heads of **INDIA, SINGAPORE, and PHILIPPINES**, a fuller account is given of the islands more particularly under the influence of European influence. The chief other islands, with their ports or towns, are the following:

1. *Dutch Towns*.—Palembang, Padang, Bencoolen. *Native Towns*.—Acheen, Soosoo, Bencoolen, Bacoungau, Tappunooly, Rawa, Natal, Ippoo, Ayrpoor, Manna, Kawur, Croee, &c.

2. *Dutch Towns*.—Sambass, Pontiana. *Native Towns*.—Borneo, Montradok, Mampawa, &c. Pasir Town.

3. Macassar, Kema, Gounong Tela, Bool, Palos, Waja Tannete, Mero, Boola, &c.

ISLANDS. Sooloo.

4. **OR SPICE ISLANDS;** Ceram, Amboyna, Banda, Ternate, Goram, Gilolo, Tidore. *Dutch Town*.—Amboyna, in the island of that name.

The chief articles chiefly employed throughout the Eastern Islands are those of China. The currency commonly used by the merchants is commonly the Spanish dollar, but in Java the Netherlands florin.

The social and political condition of the inhabitants of the Eastern Islands has been much debilitated by the evil effects of European influence as exercised by the Dutch; and by their turbulence, owing to the defective power of the sovereign, the ill-defined succession to the throne, the universal prevalence of piracy, and the inefficient protection of commerce and the monopoly of trade by the petty chiefs, with all their arbitrary dues and extortions.

INDIA COMPANY, an association originally formed for the sole purpose of trading to Hindostan and the neighbouring regions; but who, by a combination of circumstances, have established themselves as the sovereigns of an immense empire, extending over the principal part of those countries, numbering upwards of 100 millions of people.

From the first dawn of maritime enterprise in Britain the trade of India was regarded as its grandest object. Into the sanguine conceptions formed on this subject were entered, no doubt, a considerable degree of illusion. Yet there were moments which, even at that early stage of mercantile adventure, threw a

peculiar lustre on the trade of India. The staple articles consisted of finer and richer fabrics than any that had yet been produced in the West; diamonds, pearls, jewels the most beautiful and brilliant; also spices the most fragrant and grateful to the senses. The great scale, too, on which operations were conducted, and the large fortunes accumulated in certain instances, gave to this traffic a character of grandeur not belonging to the smaller transactions which took place within the limits of Britain or of Europe.

The exclusive right to the navigation to India by the Cape of Good Hope was claimed by the Portuguese, the original discoverers of the route in 1497, and then the most powerful maritime state. This claim being sanctioned by the Pope, and somewhat in unison with the laws generally admitted in that age respecting maritime discovery, the early attempts of the English to participate in the India trade were directed first to the exploring of a passage by the N. W. coast of Asia; and next to the opening of an intercourse with India across Russia and Persia; and under Willoughby, Chancellor, and others, much capital and enterprise were expended in vain on these arduous undertakings (1528, &c.). The next attempts were made by Cabot and others by the N. W. passage round the arctic shores of America; but the results were alike unsuccessful. At last Drake conceived the bold design of penetrating into the South Sea; and, having equipped a fleet, he accomplished a passage through the Straits of Magellan, and arrived in 1579 at the Moluccas, where he first began that commerce with India which has since been carried to so great an extent. Drake's return to England in 1580 was hailed with exultation by the people; and his success encouraged Cavendish and other commanders to tread in his footsteps, while another route, projected by the Mediterranean and Persian Gulf, was accomplished by a different body of adventurers, including Newbery and Fitch, in 1584 and 1585. Meanwhile, England having risen to the first rank among maritime states, the awe inspired by the power of the Portuguese became materially lessened; and in 1591, three ships were despatched under Lancaster and others by the Cape of Good Hope. He visited Sumatra, Penang, Ceylon, and neighbouring places, and returned in 1594; but the issue of this expedition was, upon the whole, unfortunate, and for some time chilled the ardour of the English. On learning, however, that the Dutch had sent out four vessels, they were again inspired with emulation, and an association, formed in 1599, subscribed £30,000 to be employed in fitting out three ships for the Indian trade. This body in 1600 merged into one on a grand scale, having at its head George, earl of Cumberland, with 215 knights, aldermen, and merchants, who constituted the "Governor and Company of Merchants trading to the East Indies."

The Company received a charter for 15 years from Queen Elizabeth, and were invested with the ample privileges which it was then customary to bestow on mercantile associations. They began on the footing of a joint-stock company, though, as the subscribers were slow in paying up their shares, a certain number of the more zealous took the concern altogether into their own hands. They expended £75,373, of which £39,771 were invested in shipping, £28,742 in bullion, and £6860 in goods. It was the wish of the court that Sir E. Michelborne should be commander; but the merchants intimated their resolution not to employ gentlemen, "but to sort their business with men of their own quality." They accordingly appointed Lancaster, who sailed, 2d April 1601, with five ships, varying from 130 to 600 tons; and after visiting Acheen in Sumatra, and Bantam in Java, returned in 1603. Betwixt 1603 and 1612, seven other voyages were undertaken, making in all eight expeditions, the result of which was judged, on the whole, to be prosperous. The commanders of these expeditions appear, like most of the early navigators, to have sometimes conjoined the different occupations of trade and piracy. Their principal object was to obtain pepper, cloves, nutmegs, and other spices in the Eastern Islands, their chief settlement being Bantam; and the continent of India was not visited until 1611, when Middleton reached Surat. In 1612, the Mogul allowed them to establish factories at Surat, Ahmedabad, Cambay, and Gogo. Shortly afterwards, a regular annual intercourse with India was established, chiefly at Surat; and the most valuable possessions in the Eastern Islands having been wrested from the Portuguese by the Dutch, were less visited, until at length the greater attractions of the continent induced the Company gradually to relinquish all their insular stations except a few in Sumatra. The factory at Surat remained their chief seat on the western coast until 1687, when the presidency of the other settlements was transferred to Bombay, an island which had been obtained by Charles II., in 1662, as the dowry of the Infanta Catherine of Portugal. The Company's trading stations on the E. or Coromandel coast were held subordi-

Bantam until 1640, when they obtained the permission of a native chief for the erection of Fort St George at Madras ; which place was formed into a presidency in 1654. The establishment in Bengal was founded somewhat later than the others. In 1656, through the influence and patriotism of a physician named Job Charnock, who had been professionally useful to the Nabob of Bengal, permission was obtained to erect a factory at Hoogley, on the Ganges. From this time ships came to Bengal every year, but its commerce was still considered secondary to that of Coromandel, and made subject to the presidency of Fort St George. Calcutta was purchased in 1698; and in 1707 it was raised into a separate presidency. The Company, for some time, were little more than an associated body of private traders; the governor and directors merely receiving the funds contributed by the individual, managing them according to his suggestion, and accounting to him for the proceeds. But in 1612, by representing the complexity and inconvenience of this arrangement, they prevailed upon the merchants to unite into a joint stock company, where the whole sum subscribed was placed under the control of the directors; and a dividend made, conformable to the general results of the year.

It has been alleged, however, that when zeal was no longer stimulated by the prospect of personal advantage, the transactions were not conducted with the same economy, and yielded less advantageous returns. The Company afterwards involved themselves in the confusion of different interests. An addition to their capital being sometimes to time required, was procured by a new joint stock, and sums were subscribed by fresh bodies of adventurers, which were to be separately managed. By the year 1650, four distinct subscriptions were formed. Meantime, the directors were harassed not only by the competition of interlopers, but by demands from respectable merchants to be admitted to a share of this lucrative traffic. The clamours of commercial as well as of political liberty widely pervaded the nation; the East India and Muscovy trades had been thrown open with the happiest effects; and it was urged that equal benefits would accrue from opening to the nation in general that of India. In 1635, a new association, headed by Sir W. Courtenay, obtained permission from the king, who was allowed a share in the adventure, to trade in an independent trade with that country. The concern, however, was ill conducted, and could not make head against the hostility of the Company. Though the privilege was withdrawn; but the directors agreed to incorporate their capital with their own, forming what was termed the United Joint Stock. Its directors, however, were in 1655 empowered by Cromwell to resume a separate trade. Jealousies were roused to the highest pitch; and after several warm discussions, it was agreed that the exclusive system should be fully re-established, and that the different stocks which had led to such confusion should be consolidated. At this time the transactions were carried on, if not in a more profitable, at least in a more systematic manner. A charter granted to the Company in 1661 authorized them "to make war or peace with any prince or people that were not Christians."

During a course of years from this date, though the Company laboured under the disadvantage of a new establishment, the prosperity of the country enabled them to extend their commerce. Their outward investment in goods and bullion, which in 1622 did not exceed £65,000, rose in 1673 to £228,000. This apparent success produced the effect of exciting emulation among the rest of the community; and the project of a new joint stock was (1683) for some time entertained. The Company, notwithstanding, had still influence enough in 1693 to procure from the crown a charter for a new company, which authorized them to extend their capital from £756,000 to £1,500,000; and the House of Commons, in the same year, passed a vote directly annulling this charter.

In 1698, a bill was brought into Parliament for the establishment of another company. This measure was not, however, founded upon a liberal basis. It did not throw open the trade, but merely transferred the monopoly from one body to another, and a direct injustice was committed by allowing the new association to commence their operations immediately; their predecessors being by their charter bound to a notice of three years before their exclusive trade should cease. Finally, this was the real source of their too ample privileges—the new company was to advance to government £2,000,000 at 8 per cent. Their means being crippled, they were only able in their first voyage to complete an investment of £800,000, while their rivals sent out one of £525,000. The old company also conducted their affairs with increased prudence; and by their great experience considered themselves superior to their new competitors. The most violent dissensions took place in India between the rival associations, each representing the other in the most odious colours to the native princes, who were much disposed to listen to the suggestions of both. Hence arose an apprehension that the very existence of British

trade in India was in peril ; and a sense of mutual danger induced the to agree, in 1702, to a compromise, and to act thenceforth under the title of the United Company of Merchants trading to the East Indies." God appointed arbiter, and on the basis of his decision was formed a government composed of a Court of Proprietors for general purposes, and a Court of Directors for details. Seven years were allowed for each company to wind up its affairs at the end of which period (1708), the act 6 Anne, c. 17, was passed, prolonging the charter to 1729, and obliging the United Company to advance £1,200,000 to the government without interest, which, when added to the former loan at 8 per cent, increased the amount to £3,200,000, and reduced the rate to 5 per cent. upon the advance. This act may be regarded as the foundation of the privileges of the Company.

The exports, in the early part of the 18th century, consisted chiefly of the exports and imports of Indian silks, piece goods, and other products. The intercourse with China was opened so early as the year 1635 ; but the trade was long prosecuted irregularly, and on a very limited scale. In 1678, the Company possessed factories at Taywan in Formosa, and at Amoy. At this period the imports from China were silks and porcelain, and tea did not become a general commodity until 1706, previous to which time they had been forced to restrict their intercourse to Canton. In 1715, the intercourse with the Chinese assumed the character of a regular trade, and ships were despatched from England at regular seasons, having each a supercargo to conduct the sales and purchases.

In 1709, the Company's dividend was 8 per cent., which was increased to 9 per cent. ; and in 1712, the charter was again extended to 1736. The dividend was increased to 10 per cent., but reduced in 1722 to 8 per cent. A strenuous effort was made by petitions from the chief mercantile towns to have the Indian trade thrown open ; but the Company defeated this application, and procured a further extension of their charter for 33 years, to 1769, on condition they gave £200,000 to the public, and agreed to reduce the interest on the public debt to 4 per cent. In 1743, they advanced £1,000,000 to the government, and obtained an extension of their charter from 1769 to 1784. A general reduction of the interest on the public debt took place in 1757, the whole debt of £4,200,000 was reduced to 3 per cent., and they were enabled to borrow, by the sale of annuities to that extent, and did borrow accordingly.

At this time (1749), the circumstances of the Company underwent an important change. At first they attempted nothing more than to maintain peace for the accommodation of their agents, and places of deposit for their goods ; but the marauding character of the native princes afterwards rendered it necessary to fortify these stations. But though some passages in the Directors' correspondence in 1689 indicate a desire to make territorial revenue one of the Company's sources of emolument, yet down to 1749 they had acquired only a few settlements around Bombay, Madras, and Calcutta. The war which then broke out in the Carnatic had the effect of converting them into a military power, and they, after various struggles, virtual sovereigns of that part of the country. More memorable results arose out of the war in Bengal, and the victory of Plassey in 1757, when they obtained the Dewannee, including the real occupied provinces, with Bahar and Orissa, forming a territory more extensive, and at the time supposed more opulent, than the whole of Great Britain. The success of these territories having been confirmed to the Company by treaty, an extraordinary sensation was created, and both themselves and the nation were inspired with an extravagant idea of their wealth ; their stock rose, and a dividend was voted of 12½ per cent. These treasures, however, became an object of jealousy and desire, both to the people and the government. The question was mooted whether any body of subjects could exercise a power independent of the supreme power ; nor were ministers slow to pronounce that the king must be the real and only sovereign over every territory conquered by British arms. This alarming claim was, for the time, evaded by an act made in 1767, that the Company should annually pay £400,000 into the Treasury, and reduce their dividend to 10 per cent. ; upon which they were allowed five years to retain their Indian acquisitions. In 1769, a similar arrangement extended their power five years longer ; but at this epoch a disastrous war arrived in their affairs. The revenues of the conquered provinces, though considerable, were found inadequate to defray the expenses of the war in India, in which they were then engaged, and to meet the rapacity of their

the exorbitant dividends which the proprietors thought themselves entitled to demand. Their affairs were now (1772) in a state of extreme embarrassment, which they in vain endeavoured to mitigate by loans from the bank, first of £400,000 (July 15), and then of £200,000 (July 29). They were under the necessity of stating to government (10th August 1772) their absolute want of an accommodation to the amount of £1,500,000. This application placed them entirely at the mercy of the minister, who determined, indeed, after some hesitation, to grant their request, but under conditions which might promote both his own influence and that of the crown. His terms were, that the Exchequer should lend £1,400,000 at 4 per cent., and forego the stipulated annual payment of £400,000 till that debt were discharged. In return, the Company were not to divide above 6 per cent. till that object should be accomplished; and on their extrication from difficulties, were to pay to the revenue three-fourths of their surplus receipts at home. The latter point was loudly denounced by the Directors as oppressive; but, in fact, it proved wholly nugatory, since the relief from embarrassment and the possession of a surplus were never realized. The minister followed up this measure by another still more offensive, regulating their constitution, both at home and in India,—in particular, requiring the appointment of a governor-general, with four councillors, and a chief-justice with three judges, subject to the approbation of the cabinet. The remonstrances of the Company against this measure were fruitless, and the arrangements were carried into effect by two acts passed in June 1773.

The debt to government was discharged in 1777, when the restriction on their dividends was of course removed; and in 1781, a new agreement was made, by which £400,000 were accepted by government in discharge of all former claims, and the charter extended to 1794. The dividend being at that time 8 per cent., it was also stipulated that a certain share of the surplus profits should accrue to the public; but the state of the Company's affairs rendered the latter provision of no value.

Meanwhile the Directors were actively endeavouring to repress the disorders which began to appear in their Indian possessions. It was with this view chiefly that Clive went out a second time in 1765, though circumstances soon afterwards led also to a vast extension of their territorial property. The two primary objects of his mission were to put an end to the exaction of presents by British officers from the native powers, and to repress the internal trade, in a great measure monopolized by them, which had been the source of accumulated evils. The first of these measures he enforced with rigour. The latter, however, he is said to have partially connived at, till the repeated commands of the Directors left him no choice but to perform his duty. Affairs, nevertheless, remained in extreme disorder; and the revenue had, in no degree, answered the expectations of the Company. On the resolution being formed to appoint a governor-general, Parliament nominated Warren Hastings. The choice was entirely approved by the proprietors; and from that gentleman's splendid talents and great experience in Indian affairs, the happiest results were expected from his elevation to the supreme government. His administration lasted from 1772 to 1785; and the various transactions by which it was marked excited in Britain a very intense interest, and gave rise, after his return, to some of the most memorable proceedings in the records of Parliament, though they did not permanently affect either the extent of the British power, or its relation to the native states. During Mr Hastings' government, the revenue had been somewhat increased, but the debt had been augmented in a greater proportion. This, however, had resulted from the wars in which the Company were involved, particularly that with Hyder, to which Mr Hastings could scarcely be considered a party. The violent clamour against him led to his impeachment before the House of Lords, and his trial lasted from 1788 to 1795, in the course of which it appeared that, if he had not been free from blame, it was evident that the magnitude of his offences had been considerably exaggerated: the sentence of "not guilty" was finally passed in a thin house upon all the charges; and the Company granted him a considerable pension.

The affairs of India had meantime been made the chief ground of debate in Parliament betwixt the two great political parties. Mr Fox having obtained an ascendancy in Parliament, brought in his memorable bill, by which nearly the whole government and patronage of India would have been taken from the Company, and vested in the Commons. It was passed without difficulty in that house; but through the influence of the king, it was rejected by the Lords. Mr Pitt obtained office shortly afterwards, and by means of his exertions an act was passed in 1784, which made a material change in the administration of India, by the estab-

lishment of a new body, invested with high powers, called the *Board*, the functions of which will be immediately explained. The act contained injunctions for the remedy of the evils whence the Company's embarrassments supposed to have arisen ; in particular, to renounce all schemes of conquest, declaring that " schemes of conquest and extension of dominion are measures repugnant to the wish, the honour, and the interest of the British people." In order to fulfil the objects of the act, Lord Cornwallis was appointed general in 1786. Animated by the purest patriotism and integrity, and with a sound judgment, he perhaps did not possess those comprehensive views which form the complete statesman. In undertaking to place on a new basis the financial and judicial systems of British India, he was guided by a decidedly benevolent spirit. But his arrangements in some cases proceeded from imperfect knowledge of the actual state of the country; and he applied the principles founded upon abstract theory and English practice to a people in whose prejudices had taken deep root. The sanguine expectations formed by the former administration were therefore in a great measure disappointed. He was in conformity with his instructions, to abstain from aggression and conquest, yet he allowed himself, on somewhat slender grounds, to be drawn into hostilities with Tippoo, which added a considerable part of Mysore to the Company's possessions, and laid the foundation for other conquests on a still greater scale. The result, on the whole, has been, that, instead of " conquest and extension of dominion" being abandoned, it was from this time that, in the mode of governing the territory, the Company dispensed with mercantile intrigue, and began to assume more of a purely military character.

In 1793, the charter was renewed (33 Geo. III. c. 52) for 20 years. In the same year, the public debt of £4,200,000 due to the Company was redeemed by the 3 per cent. stock ; but as £2,992,440 of this debt had been previously repaid, the Company became holders to the extent of the balance only, viz. £1,207,560, which was not paid up until some years afterwards. At this period their revenue amounted to £8,225,628, the expenditure to £7,007,050, thus yielding a surplus of £1,218,578 ; and the debt was reduced to £7,971,665. This state of affairs became the subject of vehement declamation in Parliament and elsewhere. The Act, after directing payment of a dividend of 10 per cent., with more eventually from a separate fund, and providing a sinking fund of £100,000 per annum, gravely appropriated an equal amount to be annually paid to the British Exchequer ; besides contingent sums of " surplus profits," to be applied in a similar manner. It may be almost superfluous to state that the golden dreams were never realized. The hostilities against the French in India commenced in 1793, led to their being entirely stripped of their Indian possessions, but though annihilated as a separate party, they continued to intrigue with native princes, particularly Tippoo. This led to the Mysore war of 1799, the destruction of that sultan, and the complete breaking up of his territory. In 1800 the Mahratta war commenced, the most important of all in which the Company have ever been engaged. Amidst these extended operations, the Company's revenue soon disappeared ; and it was not found convenient to make two payments of £250,000 each to the public, in the years 1793 and 1797, a deficiency occurred, which continued till 1811, although, by the acquisition of territory in the interval, the revenue had increased from about 8 millions sterling. In 1810, the Company obtained temporary assistance from the public, by the advance of £1,500,000 in Exchequer bills. They again obtained accommodation in 1812, by a loan of £2,500,000 : this last was liquidated by annual payments, and finally discharged in 1822.

In 1808, the Company began to grant licenses to the owners of Indian ships, or " country ships," to trade between India and China. This traffic, conducted quite distinct from the transactions of the Company, soon acquired considerable importance. The exports of the country traders, consisting of opium and cotton wool, considerably exceeded in value their imports. While, on the other hand, the shipments of tea by the Company were of greater value than their outward investment. The balance was therefore sent through the country traders, by means of bills drawn by the Company at Canton upon the Bengal government, and to a small amount also on the Company of Directors in London. Previous to the great extension of the country trade, tea was principally paid for with bullion exported from England,—the goods, which principally consisted of woollen cloths, with a small quantity of other goods, being wholly inadequate to that purpose.

, the act 53 Geo. III. c. 155, was passed, which renewed the charter for 20 years, from April 22, 1814. By this statute the trade with India was open to the public under certain regulations; while that to China, on trade generally, was reserved exclusively to the Company. At the same time the territorial and commercial branches were separated, as well as all connected with them. During the 20 years embraced by the charter, there were the Nepaulese war, 1814 and 1815; the Pindarce war, 1817 and 1818; the war, from 1824 to 1826; besides others on a smaller scale, including Bhurt-26. Most of these operations led to an enlargement of territory, and consequently to an increase of revenue, but likewise, as before, to a corresponding expenditure and debt; during the Burmese war alone the debt being £13,007,823.

When the trade to India was thrown open in 1813, it was confidently stated, in which the Directors forwarded to the Board of Control, "that all the expectations then entertained by British merchants as to the wished for opening of Indian trade were groundless and delusive; that those who should act on the supposition that the trade were opened, would be sure to experience ruin, loss, and disappointment; and that the abolition of the Company's commercial privileges would effect the extinction of the whole of the present Indian system." Notwithstanding this statement, the merchants at once entered into the new trade, and the following table, showing the progress of both parties, well illustrates the effects of the change:—

VALUE of the principal Exports from Great Britain to all places East of the Cape of Good Hope (except China), in the Years 1814, 1823, and 1832, distinguishing the Private Trade from that of the East India Company.

	1814.		1823.		1832.	
	Company.	Private.	Company.	Private.	Company.	Private.
in	£	£	£	£	£	£
... ..	434	42,588	...	97,188	...	87,006
... ..	23,282	28,638	90,045	60,169	11,160	178,036
... ..	17,778	91,701	...	1,128,468	288	1,531,125
... ..	...	7	...	16,893	12	369,719
... ..	2,803	65,480	1,496	122,167	1,020	100,087
... ..	11,790	15,163	6,087	76,176	11,264	71,035
... ..	83,245	69,836	36,402	132,559	3,012	141,681
... ..	17,187	8,267	1,634	19,130	5,341	43,715
... ..	946	18,079	29	25,742	45	25,159
... ..	11,267	260,882	1,320	115,997	308	149,949
... ..	235,151	20,213	82,649	221,489	37,801	199,708
... ..	412,575	429,297	235,620	933,627	78,902	763,263
Total...	896,556	1,040,132	450,550	2,057,705	149,193	3,601,093
	£1,874,690		£3,416,255		£3,750,280	

The preceding table shows, that notwithstanding the great reduction in the prices of the commodities which make up our export trade with India, the value of the exports was doubled within the 18 years from 1814 to 1832, while in the case of opium, twist, and yarn, the increase was eighteen fold; an increase the history of which is of notice as occurring with regard to a species of manufactures for which we were not many years before dependent upon the looms of Hindostan. Comparing the Company's with the private trade, it will be observed, that the former progressively decreases, the latter rapidly increases. Indeed, the Company's exports include military stores as well as merchandises, it may be said to have virtually expired in the year 1825, in which year the value of the exports amounted to only £73,000. These results, viewed in connection with the fact, that for not a few years prior to 1814 little alteration had taken place in their exports, showed conclusively that the increase was owing entirely to the activity of the private traders.

The business of a large corporation like that of the East India Company to commercial dealings being now apparent, Parliament had little hesitation in passing upon to legislate on Indian affairs in 1833, in not only abolishing their trade to the China trade, but in preventing them from carrying on any other operations whatever, and of restricting them to the administration of the territories. This change was effected by the three acts of 3 & 4 Wm. IV. c. 85 and 101. The first is entitled An Act for effecting an Arrangement with

the East India Company, and for the better Government of his Majesty's Territories, till April 30, 1854; the second, An Act to regulate the Trade between China and India; and the third, An Act to provide for the Collection and Management of the Duties on Tea. The general amount of the provisions of the Charter of 1813 was to throw open, for the first time, the countries to which they relate, to enterprise and capital. Down to 1813 both China and India were as completely closed against the people of this country generally, as if they had been hostile. The charter of 1813 diminished, to a certain degree, this restriction, by permitting the ships of private traders to resort to India, and, more recently, by permitting the Indian government permitted a limited extent of land for indigo plantations to be held in India by persons who were not natives; while trade was left free between the Company between China and India. But much of this was upon a temporary basis, and no relaxation of the monopoly of the trade between China and England has ever been conceded.

CONSTITUTION AND PRESENT CONDITION OF THE COMPANY.

The government of the East India Company's territories is composed of the Legislative Government and the Executive Government in India.

The HOME GOVERNMENT consists of, 1st, The Court of Proprietors; 2d, The Court of Directors; 3d, The Board of Control.

The Court of Proprietors elect the Directors, and make by-laws, which are binding in all matters not regulated by Act of Parliament. General courts are held quarterly, in March, June, September, and December, at which no one is admitted unless possessed of £500 stock; and the proprietors rate according to the amount which they possess. The lowest sum which entitles a proprietor to a single vote, is £1000 (of which he must have been in possession for the preceding 12 months, unless such stock was obtained by bequest or marriage); £3000, two votes; £6000, three votes; and £10,000, four votes. No greater number of votes can be given by any one proprietor. The number of proprietors entitled to vote was 1976; of which 54 possessed each four votes; 50 each three; 370 each two; and 1502 had single votes.

The Court of Directors consists of 24 proprietors, who are elected for six years going out annually by rotation. They are re-eligible, and generally are re-elected at the expiration of a year; thirteen form a court. The qualification for a seat in the direction is the possession of £2000 stock. The election takes place on the second Wednesday in April in each year. The Directors elect from their own body, a chairman and deputy-chairman. The court directs the whole affairs of the Company, subject to the superintendence of the Board of Control. They nominate the governors of the presidencies, subject to the approval of the crown. They can recall the governors, or any other of their servants at any time, at the pleasure of the Board of Control. Such despatches as that Board should be secret, are forwarded to India by a *Secret Committee*, which consists of the chairman, deputy-chairman, and the senior member of the court. These all take the oath of secrecy, and form the channel through which are transmitted the orders and instructions of the Board on all matters relating to the peace. The Directors are allowed an appeal from the Board of Control to the court in council; which, as Mr Mill observes, is little else than an appeal from the court to itself, and has never in practice been resorted to.

The Board of Control consists of six members, among whom must be the Chancellor of the Exchequer and a Secretary of State; one of which high officers is appointed to act as president, does in fact exercise nearly the whole power of the Board. Its functions are described in Mr Pitt's act of 1784, somewhat in the following terms:—"From time to time to check, superintend, and regulate the acts, operations, and concerns, which, in any wise, relate to the civil or military government or revenues of the territories and possessions of the United Kingdom in the East Indies." They are authorized to inspect all correspondence and despatches to and from India, and the proceedings of the Courts of Proprietors and Directors; also to have access to all documents belonging to the Company, and have the power to alter and amend the instructions which that body send to their servants; and in certain special cases, as has just been noticed, can direct orders directly through a secret committee of the Directors, who act as the channel of their communications. The Board of Control is now almost the governing power; they direct all the grand measures, nominate the commander-in-chief, and influence the other important appointments. They also possess by courtesy a large share of the general patronage; the president, who is a

minister, is virtually secretary of state for India, and in Parliament is held accountable for the proper administration of the affairs of that country.

The Board of Control and Directors have, on the whole, worked together with a greater degree of harmony than might have been expected from an independent and ill-defined jurisdiction. It is admitted, however, that the details of Indian affairs have been generally administered by the Directors without vexatious or oppressive interference from the controlling authority.

The establishment of the Company in England, in 1835, comprised 494 persons, whose salaries and allowances amounted to £134,454.

THE EXECUTIVE GOVERNMENT IN INDIA is administered at the three presidencies, Bengal, Madras, and Bombay. In the first, the government consists of a governor-general and four councillors; and at the two others, of a governor and three councillors. The commander-in-chief is generally a member of council. The governor-general has a controlling power over the governors of Madras and Bombay. The making and enforcing of laws in the respective presidencies is vested in the governors in council, subject, in certain instances, to the consent of the supreme court of judicature, to register these decrees; and in all cases to the approval of the Board of Control and Court of Directors. Two systems of judicature exist in India,—the Queen's supreme courts, whose jurisdiction extends over Europeans generally, and affects the natives only in and within a certain distance around the several presidencies; and the Company's courts, in which there is a mixture of European and native judges.

THE COMPANY'S TERRITORIES.

The Company's dominions, besides the presidencies of Bengal, Madras, and Bombay, and the territories from time to time annexed to them by cession or conquest, comprise numerous tributary or protected states, the princes of which acknowledge the supremacy of the British government. According to the last edition of Mr Hamilton's Indian Gazetteer, the area and population of the whole, including the states in Hindoostan still independent, are as follow:—

	Sq. miles.	Population.		Sq. miles.	Population.
Bengal Presidency	396,000	57,500,000	INDEPENDENT STATES.		
Madras Presidency	154,000	15,000,000	Nepaul Raja . . .	83,000	2,000,000
Bombay Presidency	11,000	2,500,000	Lahore Raja . . .	50,000	3,000,000
Territories in Dacca, &c.			Ameers of Scinde *	24,000	1,000,000
acquired since 1815.			Divisions of Hindia.	40,000	4,000,000
now attached to Bom-			Cabul, east of India*.	10,000	1,000,000
bay Presidency . . .	60,000	8,000,000		177,000	11,000,000
	553,000	83,000,000			
ALLIED & TRIBUTARIES.			INDIA BEYOND THE		
Khass	96,000	10,000,000	GANGERS.		
Nagpore Raja	70,000	3,000,000	British Acquisitions in		
King of Oude	20,000	3,000,000	1824 and 1825.		
Gulowar	18,000	2,000,000	Countries S. of Rangoon,		
Kash. Boudes, & Bo-			consisting of part of Mar-		
janal	14,000	1,500,000	taban and Tavay, Ye,		
Myore Raja	27,000	3,000,000	Tenasserim, and Mer-	12,000	51,000
Satara Raja	14,000	1,500,000	gut Islands	11,000	100,000
Tyvanore and Cochin	8,000	1,000,000	Assam and adjacent petty		
Other Rajas and Chiefs	283,000	15,000,000	States	54,000	150,000
Total	1,103,000	123,000,000	Total	77,000	301,000

STOCK, FINANCES, &c.

The Capital Stock of the Corporation amounts to £6,000,000, of which there were subscribed, at the union of the two Companies in 1708, £3,200,000; in 1786, £300,000; in 1789, £1,000,000; and in 1794, £1,000,000. The act of 1833, while it determined that the government of the Indian territories should be continued to the Company until the 30th of April 1854, directed (as already noticed) that their trading privileges should cease from the 22d April 1834, that their commercial assets should be assigned to government for the purpose of discharging the territorial debt, and that, from the proceeds of the saleable effects, the sum of £2,000,000 should be taken, to be invested in the public funds, as a guarantee for the redemption of the capital stock.

* Cabul may now be included under the protected or allied states.

whose right of perpetual occupancy was never questioned, but who were subject to the demands of their respective governments,—demands unlimited as to right, but limited in extent by custom. Different systems existed as to the mode of collection. In some places the rent or tax was collected in one sum from each village, which kept up a body of officers whose functions consisted in proportioning and levying the assessment according to the means of the ryots. In other cases, government appointed officers, who received charge of several districts, and who were remunerated by a per centage upon the amount collected. These functionaries were called *zemindars*, whence the plan acquired its name of the *zemindary system*. Their allowance formerly was one-tenth part of the collections; but in the year 1793, the Marquis Cornwallis, then governor-general, formed the resolution of placing the *zemindars* in the situation of proprietors, by fixing the assessment against them, and engaging not to raise at any time its amount. This arrangement, termed the *permanent settlement*, has been established through a great part of the presidencies of Bengal and Madras. It was hoped that by this means the *zemindars* would have been induced to improve their estates, since the whole increased revenue resulting from such improvements would have been permanently theirs. Unfortunately, however, the power thus confided to the landholders has been used principally as the means of oppressing the cultivators; and in order to remedy this evil, the Company has, of late years, with the view of abolishing the system of middlemen, become the purchasers of all estates thus held which have been brought to sale, and making their bargain directly with the farmers or ryots; whence the plan is termed the *ryotwary system*.

Of the other branches of revenue, the principal is the monopoly of salt, which is manufactured by the agents of government, and disposed of by public sale for ready money. The next in point of importance is the monopoly of opium, which in the year 1837-38 produced 2,09,65,187 Company's rupees, subject to R. 65,97,949 of charges, leaving R. 1,43,67,238 net. Being produced chiefly in the province of Bahar, the impost is levied only in the Bengal presidency. It has to compete, however, with the opium of Malwa, originally much inferior, but which, being manufactured by free cultivation, has improved greatly both in quantity and quality. The latter is exported at Bombay, where it pays a custom duty; a system which has been strongly recommended in Bengal, and would be attended with many advantages; but the large amount of the revenue, and the dread of smuggling, has caused every change to be viewed with apprehension. Tobacco is made a subject of monopoly only in the western districts of the Madras presidency. Customs are levied on the exportation, and also, down to 1837, on the inland transit of goods. Another order of imposts, which bears the title of *sayer*, appears to consist of dues levied at markets and the gates of towns. With these are usually combined a second class called *abkaree*, which are laid chiefly, in the form of license, on spirits, opium, and every species of intoxicating drugs. The other branches are derived from stamps, post-office, mint, marine duties and pilotage, to which may be added judicial fees and fines.

The expenditure consists partly of dividends to the proprietors, partly of charges attending the collection of the revenue and the maintenance of the various civil functionaries, but chiefly in the support of the Company's military establishment.

THE INDIAN ARMY.

In the government administered by the Company the most striking feature is that military force by which their colossal empire was mainly acquired, and is still held in subjection. Its composition is, perhaps, more remarkable than that of any army ever levied; for India is subjected to a foreign yoke by her own soldiers, paid with her own money. It might at first appear that a conquering state could not, without the utmost peril, rely on such means; but the incorruptible fidelity of the native troops or *sepoys*, under British commanders, has entirely removed all such apprehension. This army attained, by gradual steps, its present strength and discipline. A few battalions were at first employed merely as an appendage to the Company's forces, and at that time, captain, adjutant, and some sergeants were the only English officers attached to them. With the skill which these communicated, they easily vanquished the irregular troops of the native princes. When the latter, however, began to introduce European tactics, it became necessary to raise the indigenous force to a higher degree of efficiency; their complement of British officers was progressively increased, and they were more and more assimilated to regiments of the line. This method was brought into

full operation in 1796 ; since which year no native has been allowed to rise the rank of subahdar, the highest pay attached to which is 147 rupees per m and in that station he is subject to the command of the youngest subalter England.

The following was the effective force of the Indian army in 1837 ; namely British forces, consisting partly of Queen's troops, and partly of the Com European regiments, 26,582 ; native troops, including 3728 British officers, 1 contingent native forces, 111,500 ; total, 295,840. Since the year just specified hostilities in Afghanistan and China have doubtless led to a very considerable increase in these numbers.

EAST INDIES. [INDIA.]

EAU DE COLOGNE, a celebrated preparation for the toilet, is nothing more than aromatized alcohol. It is extensively manufactured in France from brandy, mixed with sage, thyme, camphor, cloves, and other herbs and spices, the whole being macerated together, and then distilled.

EAU DE LUCE is formed of the distilled oil of amber and water of ammonia.

EBONY (Fr. *Ebène*. Ger. *Ebenholz*), a hard, durable, black-coloured wood, obtained from different species of *Diospyros*, a large tree, found in tropical countries, especially in India, the Malayan Islands and Peninsula. That wood considered to be of the best quality is the *D. ebenus*, a native of the Maldives, Ceylon, and Madagascar ; being jet-black, astringent, and of an acrid, bitter taste. Ebony, besides its other qualities, is susceptible of an elegant polish and has always been held in high estimation ; it is at present chiefly used in inlaying, for making rules and scales, as not being liable to warp, and for purposes in turnery ; but it is in less request now than formerly for cabinet-work, cheaper woods, dyed black, particularly that of the pear-tree, being commonly substituted for it. About 2000 tons are annually imported.

ECU, an old French silver coin worth 6 livres ; also a Swiss piece of 40 b.

ECUADOR, OR EQUATOR, a state comprising the S. W. part of the republic of COLOMBIA, is situated on the W. coast of S. America, betwixt New Granada and Peru ; and extends from 6° 30' S. to 2° N. lat., and from 70° W. long. Area 325,000 square miles. Population, 600,000, of which 160,000 are whites of Spanish extraction ; the rest chiefly Indians. Divided into Ecuador or Quito, Guayaquil, and Assuay, each subdivided into provinces. Capital, Quito, an inland town, and one of the finest cities of S. America ; pop. 70,000. The government is republican, consisting of a senate and house of representatives elected by the cantonal deputies of the provinces, in a provisional assembly once in four years.

The country is intersected by the Andes, and the temperature of course differs considerably in the elevated lands adjoining those mountains, and in the low countries on both sides of the range. The department of Quito, though subject to earthquakes, possesses a very healthy and salubrious climate. That of Guayaquil and the valleys along the coast is warmer, and the climate of Assuay adjoining the river Amazon and its tributaries is very hot. The difference of climate gives a varied character to the productions of the country. The most important are cocoa, cane, cotton, tobacco, and cinchona bark. The last is obtained chiefly from forests in the mountains of Loxa in Assuay. In the department of Guayaquil, oak and other timber trees are produced, including the strong wood called guachapeli, cedar, ebony, and other cabinet woods. There are gold and silver mines in Quito, and at Zaruma in Assuay ; but the country is less rich in precious metals than the other states which comprehend a portion of the Andes. Quicksilver, however, is found at Azogues ; lead also exists ; sulphur is prepared in considerable quantities at Texoan, in Chimborazo ; and salt is procured on the coast.

The maritime commerce of Ecuador is concentrated at *Guayaquil*, a flourishing port at 0° 12' S., and 79° 53' W., on the N. bank of the river of the same name, the estuary of which is here about 2 miles broad ; pop. 22,000. The port is one of the best on the Pacific, but it is unhealthy, ill supplied with water, and from being built of wood, very subject to fire. On the S. bank of the river, there is a dockyard much used for shipbuilding. Exports, chiefly cacao (nearly 9,000,000 lbs.), which is mostly sent to Spain, Mexico, U. States, and Peru ; hides, cattle, and tobacco ; the annual value of the cargoes being nearly £220,000. Imports, consisting of British manufactures, wine, silks, and other articles, are of nearly the same amount.

Measures, Weights, and Money, same as NEW GRANADA.

Finances.—The annual revenue and expenditure are each estimated at \$800,000. The public debt is unknown. The foreign debt consists of 21½ per cent. of the loans contracted in New Granada in 1822 and 1824, or £1,451,250, exclusive of arrears of interest thereon, 1 per cent. since 1826.

EEL, a peculiar description of fish resembling the snake in its external form, but having otherwise little similarity. There are different species, but the most common is the sharp-nosed eel (*Muræna anguilla*). Eels inhabit almost all rivers, lakes, and ponds ; and are in great esteem for the table. The best

r eel—is that found in the clearest waters. The dingy yellow, and the deep green, are very inferior to the clear coppery brown-backed eel, and even to the blue-coloured. Their freshness is known by their vivacity of motion. “The market is principally supplied from Holland by Dutch fishermen. There are many companies in Holland, having five vessels each: their vessels are built with care, and are very strong, in which large quantities of eels are preserved alive till wanted. More of these vessels may be constantly seen lying off Billingsgate: they go to Holland for fresh supplies, each bringing a cargo of 15,000 to 20,000 eels” (*Yarrell*). About 70 cargoes are annually imported.

EFFECTIVE, a term used in many parts of the Continent to express coin, in distinction to paper-money. Thus bills upon Vienna are generally directed to be paid in *effective*, to guard against their being paid in paper-money of a depreciated value: very frequently also, the particular money in which the bill is to be paid is specified; as in 20 kreuser pieces.

EGGS (Fr. *Œufs*). The eggs of domestic fowls form a considerable branch of traffic, more particularly betwixt Ireland and Britain. “The trade in eggs, a large part of which, for export, according to Mr Williams, in 1832, amounted to £100,000, is carried on with considerable vivacity at Lanesborough, and also at Tarmonbarry.”—“In the height of the season, the price of eggs at Lanesborough were from 2s. 6d. to 4s. per 120; but towards the winter, they rose to 5s. The eggs are packed in layers with straw, in crates. Each crate holds about 84 hundred of six score, that is 10,080, the first cost being from £10 to £16, 16s. per crate. These are sent forward on speculation to Dublin, and are immediately at once to the English market; and a profit of £4 or £5 per crate is considered a fair remuneration” (*Weld’s Roscommon*). Eggs are also largely imported from abroad,—no fewer than 96,000,000 being at present brought annually from the Continent, chiefly from the department of the Pas de Calais in France. Throughout the whole of that kingdom the egg trade is carried on to an extent hardly surpassed in this country. In a paper lately read by M. Legrand to the Statistical Society, the number exported in 1834 is stated at 90,441,600, and the total number imported at 7,231,160,000; equal, at only 4d. the dozen, to £10,168,891. “The consumption in Paris is calculated at 115½ eggs per head, or 101,152,400. The consumption in other parts of France, may be reckoned at double this rate, as, in many parts of the country, dishes composed of eggs and milk are the principal items in the diet.”

EGYPT extends in length about 500 miles along the river Nile, from its mouth to the Red Sea; and comprehends a breadth of 200 or 300 miles from the Red Sea to an inland boundary in the Libyan desert. It was formerly divided into 16 provinces, but is now composed of 24 departments, which are subdivided, according to the French system, into arrondissements and cantons. Population, 2,500,000, Arab-Egyptians or Fellahs. Capital, Cairo, an inland city; pop. 240,000. Egypt is an appendage to the Turkish empire; but is under the government of a pasha whose power is nearly despotic, though he occasionally consults a council of his chief officers.

The cultivated part of Egypt is confined to the banks of the Nile. This region is divided by the Nile into two parts,—Lower Egypt, composed of the alluvial tract formed by the Delta of the Nile; and Upper Egypt, an exceedingly narrow valley which extends nearly 400 miles along the Nile to its separation. On the E. and W. of this valley lie mountains and waste deserts, strewed with oases. The climate of Upper Egypt, though hotter, is more healthy than that of Lower Egypt, where the plague is said to be indigenous, and ophthalmia and dysentery common in autumn. In the latter, the annual range of Fahrenheit in the shade is from 50° to 100°. The climate is, however, principally characterized by its great dryness, which would render Egypt uninhabitable were it not that the high lands of Abyssinia are periodically drenched by heavy rains, which annually, betwixt July and October, to the overflow of the Nile, and the irrigation of a large part of the country.

In Egypt, one necessity absorbs all others: unless the inundations of the Nile irrigate the land, through immense districts, in vain the husbandman goes forth to sow. The inundations are very various in their character and consequences: when favourable to the lower regions, they are excessive in the lower; and when they suit the lower districts, they leave the higher country almost dry. The average course of the stream of the Nile is 1½ inches per hour, but the current is considerably increased during the time of the inundation. The influence of northerly winds more than compensates for the rapidity of the stream for vessels bound up the river. An inundation of the elevation of 24 coudees in Upper Egypt will give 21 at the mouths of the Nile. The most productive inundation is from 19 to 21, measured by the height of water at the island of Rhoda, opposite Cairo. The dike which lets out the waters of the Nile is cut when the elevation is 19½ inches; and the “*Ouafa Allah*,” or “*Allah has kept his promise*,” is then shouted by the tens of thousands who attend to witness the ceremonial, on which so much of happiness or misery depends. As the fall of the dike is from 8 to 10 feet, the great mass of water is extremely violent. When the Nile rises from 23 to 24 coudees,

Mahmoud Ali. During his reign the cotton plant has been introduced, and it is calculated that the annual shipments of wool now amount to 100,000 to 120,000 lbs. He has also bestowed great attention on flax, the sugar-cane, indigo, opium, madder-root, dyestuffs; and of late he has established a colony of Syrians in Tinnis, the ancient Thonis, for the purpose of cultivating the mulberry and rearing silk-worms. It likewise attracted the introduction of cotton factories, and other European arts, but the native manufactures are rude and inconsiderable.

The commerce of Egypt is pretty extensive, but suffers greatly from the monopolies whose views, though in many respects enlightened, are in regard to commercial matters in the extreme. Having created the commerce and manufactures of Egypt, he regards his own property, or at least so much under his control, that no one is permitted to sell his property or articles on the market. Every landholder and manufacturer carries the produce of his labour to some central depot, where it is purchased by government at fixed prices; and all articles must be marked, otherwise they cannot be sold. In the specifications of foreign trade, the pasha claims the right of taking a 10 per cent. toll at least as an advance fund, and enjoys a portion of the profit. The trade may be divided into the inland or caravan trade; the Red sea trade; and the Mediter-

THE INLAND AND CARAVAN TRADE.

The most commercial city of the nation is Cairo, but its trade has of late years declined, having ceased to be a capital, as it formerly was, both for articles of export and import, from the greater facilities which its position offers, has supplanted it in importance as a great market only for guns, and some other secondary articles. Of late years it has not exported diamonds and other precious stones to the East Indies to Calcutta, but there is no English establishment, and the stocks of manufactures are principally for the consumption of the place, the buyers for the interior being advantageously to supply themselves from the warehouses of the importers at Alexandria.

The ordinary communication between Alexandria and Cairo is by the Mahmoudie which joins the Nile at Atfeh. Indeed this canal and the Nile are the most active, not to mention the most important, channels of communication for the principal markets of Egypt. By boats of from 100 to 200 tons, there is a perpetual intercourse on these two main arteries. Boulaq, the port of Cairo, and Atfeh, where the canal joins the Nile, are the principal shipping and landing.

There is, as already explained ("Caravan"), a yearly caravan of pilgrims from Cairo and their friends through Egypt, on their way to and from Arabia, will always create a considerable number of commercial transactions. The governor of Atfeh informed Dr. How that the number who passed up the Nile to the holy cities was, yearly, from 20,000 to 25,000; but the doctor thought to be somewhat exaggerated. The caravan trade with the interior and with the Barbary States is also much associated with the pilgrimage to Mecca, generally join the great yearly caravan which leaves Cairo. The imports from the Senaar, and other African countries to the south of the first cataract, are now principally to negroes. A few elephants' teeth, rhinoceros' horns, and ostrich feathers; some aloes, tamarinds, cotton, and a small quantity of gold ornaments (grains), and gold chief articles of commerce. The amount of customs received averages about 2 or £100,000 per annum. It has been long a favourite object of the pasha to extend the regions to the south of his territories; and so great is their productive power, proper system, it is no doubt susceptible of an enormous augmentation. It was in very considerable, but the heavy duties exacted by his highness have led to its sale to the Frank merchants. The article of guns, according to the best information of Howling, might be produced to a very large extent in Senaar. Kordofan alone would be assured, 100,000 loads, each of 500 rotols. The impediments which the commerce with the interior has experienced in Egypt have forced it into other channels. African traders now carry their goods to the Barbary States, and even to the di-

THE MEDITERRANEAN TRADE.

at emporium of this trade, and the link which connects Egypt with Europe, is *Alexandria*, celebrated seaport, lying in lat. $31^{\circ} 13'$ N., and long. $29^{\circ} 53'$ E. It is situated at the western end of the Egyptian coast, upon a neck of land between the sea and the bed of the old lake; pop. 60,000. There are two ports; the best being the old one, on the W. side of which, though the entrance is rather narrow and difficult, ships may ride in from 22 water; and there is good anchorage all along the shore. The small new harbour, on the E. side of the town, is exposed, and otherwise very inferior. Alexandria communicates with the sea by means of the Mahmoudieh canal, already noticed. This was an ancient work, but it has fallen into disrepair, and was useless until restored by the present pasha in 1819. Exports, cotton-wool; also rice, corn, opium, indigo, dates, gums, incense, dried fruit, coffee, senna, medicines, hemp, linseed, mats, ostrich feathers, soda, skins, mother-of-pearl, and a variety of other articles; the quantity of corn exported, especially wheat, was formerly considerable, but has gradually diminished, in consequence of the greater encouragement afforded by the pasha to the cultivation of cotton. This last, as also indigo and gums, are mostly sent to Trieste, Leghorn, and Marseilles; the rice and opium to Smyrna, Constantinople, and the Greek islands. Imports from Great Britain, chiefly cotton manufactures, especially white cotton cloth, yarn and hardware, arms, machinery, earthenware, and coals; from France, Switzerland, Italy, and the United States, are received wines, spirits, oils, cotton manufactures, silks (principally gros de Naples and Lyons), articles of dress, furniture, hardware, trinkets, and other commodities suited to the taste of Egypt, but the interior of Africa; from Austria, timber for building and fuel (a valuable import from Turkey and the Greek Isles, silks, tobacco, oils, wood, and fruits; from Syria and Asia Minor, carpets, especially small prayer carpets, tobacco, figs, soap, and other necessaries. The value of the exports is estimated at about $2\frac{1}{2}$ millions sterling; that of the imports at half a million more. Owing to the monopolizing system of the pasha, the whole of the commodities, the produce of the country as well as of the adjacent countries under his influence, are purchased for him in the first instance, and the prohibition of trading in them applying to every one, under the penalty of confiscation.

The whole are collected in Alexandria, where they are sold by public auction, the price being fixed according to the latest report of the markets. Other ports on the Mediterranean side are, *Damietta*, situated in $31^{\circ} 25'$ N., $31^{\circ} 47'$ E., at the mouth of the eastern branch of the Nile; and *Rosetta*, in $31^{\circ} 25'$ N., $30^{\circ} 26'$ E., at the mouth of the western branch. These would by their position seem to offer great advantages, but the badness of their harbours, and the facility which is now given by the Mahmoudieh canal, have caused a gradual declension of their trade. That which exists is mainly with Syria, and Candia. English vessels seldom enter; though, occasionally, one from the Ionian Sea visits Damietta. Rice is the principal article of export, but its cultivation is much on the

MEASURES, WEIGHTS, MONIES, DUTIES, &c.

Measures and Weights.—It is difficult to give a standard of Egyptian weights and measures, they not only vary in different parts of the country, but have been changed by capricious rulers in the same way in which the currency has at different times altered by firmans from Constantinople. The following are those in general use:—

The common Egyptian cubit = $22\frac{1}{2}$ Imp. inches; the fathoms, chiefly used for Indian goods, = 6 fms. inches; the cubit of Constantinople, measuring European cloth, = $26\frac{1}{2}$ Imp. inches. The *malakha*, the distance from one station to another, is a vague measure, varying from 10 to 20 miles.

The *ardeb*, land-measure, approaches an Imperial acre. The *ardeb*, corn-measure, of 6 wey-weights = 24 roobas, equal 5 English bushels.

The *kat* = 3 troy grains; the *dram* or *dirhem* = 60 grains; the *oke* of 400 drams = $2\frac{1}{2}$ lbs. avoird. nearly; the *rottolo* or pound = 144 grains; the *castar* of 36 okes, or 100 rottoli = 144 lbs. avoird. nearly.

The integer of account is the *piastre* (of 40 fuddahs or paras), a base coin of copper, usually estimated at about $2\frac{1}{2}$ d. or 100 piastres = £1; but this is subject to variation with the exchange. The smallest coin is the *fuddah*; there are also pieces of 20 and 50 fuddahs. The *saadeeyeh* and

kheyreeyeh are small gold coins, equal the former to 4, the latter to 9 piastres. The coins of Constantinople, though current, are rare. European and American dollars, doubloons, sequins, and sovereigns are also in circulation. The ryal is a nominal money = 90 fuddahs. The *kees*, or purse = 500 piastres, or about £5; the *khuzneh*, or treasury = 1000 purses.

The *Duties* on imports or exports are 3 per cent.; but on most of the produce sold by the government no duty is charged, except on cotton, which is subject to an impost of $6\frac{1}{2}$ piastres per cantar. "Generally speaking," says Dr Bowring, "there are few complaints of the amount of the duties in Egypt, or the manner in which they are levied. British merchants pass their goods at their own valuation, and it is very rarely that a question arises as to the sum of duty with which they ought to be charged; and I am assured that it is seldom that a bale of merchandise is opened in order to verify the statements of any respectable European importer." (*Report*, p. 69.)

Finances.—The present revenues of Egypt were stated by the government to Dr Bowring to be 900,000 purses, or £4,500,000; but no details were furnished. The principal source of income is the *miri*, or land-tax, which appears to be considered throughout Egypt as an equivalent for rent. There is no national debt of any sort.

ER, a German wine measure, varying in different places from about 12 to 15 gallons; the Munich eimer, however, is only $8\frac{1}{2}$ gallons.

H, or INDIAN HEMP, a black fibrous substance resembling coarse horse-hair, which protrudes itself in large tufts from between the corticeous scales of the bark. The length of the fibre runs from 1 to $1\frac{1}{2}$ foot, and each tuft contains 1 lb. of the hemp. Ejoo cable is said to be considerably stronger than

coir ; and it undergoes a longer exposure to sun and rain alternately, without experiencing any effectual damage. It has of late attracted notice, but hitherto has been used chiefly by the Malays about the Straits of Malacca.

ELATERIUM. [CUCUMBER.]

ELDER, a common tree (*Sambucus niger*), various parts of which, especially the expressed juice of the berries, are occasionally used in medicine as a purgative. The tree is frequent in hedges in this country; it flowers in June, and ripens its fruit in September.

ELEMI, a resinous substance obtained from incisions made during dry weather through the bark of the *Amyris elemifera*, a tree which grows in Brazil and other parts of S. America. It is brought to us in yellow, tender, transparent lumps, which readily soften by the heat of the hand, have a strong aromatic odour, a hot spicy taste, and contain about 12½ per cent. of ethereous oil. Elemi is used in making lacquer, to give toughness to the varnish.

ELEPHANTS' TEETH. [IVORY.]

ELL, a measure of length now superseded in the United Kingdom by the Imperial yard. The English ell = 45 inches; the Scottish ell = 37·0598 inches; the Flemish ell = 27 inches. In Hamburg it is equal 22½, in Leipzig, 22½, and in Prussia, 26½ inches nearly.

ELM, a graceful timber-tree (*Ulmus*) which attains a large size, and lives to a great age. There are about fifteen species. The common elm (*U. campestris*) is said to be indigenous to the southern part of this island. It is a tough and strong timber, but coarse and open in the grain, more especially when it has grown upon very rich land. Hence that which grows in the more fertile parts of England is far inferior to the produce of the midland counties of Scotland; the latter, which seems to be the mountain elm (*U. montana*), being much closer in the grain, harder, more handsome, and taking a finer polish. The English is seldom used but for common purposes, such as casks, coffins, and presses, while of the Scottish, chairs and other articles of furniture are made. Elm timber is quite unfit for building, on account of its tendency to warp and shrink during drought, and expand when moist; but if wholly under water it answers well; and bolts and nails drive better into it than into any other wood. It is also adapted for the external keel of ships, and for the planks nearest to it, as these are seldom exposed to the air; the same qualities fit it for piles in the construction of bridges and harbours; though it should never be used above the low-water mark.

EMBARGO, a temporary injunction by the supreme government of a country prohibiting individuals or commodities from being conveyed beyond seas, or vessels from leaving their ports. There are two kinds of embargo, the one where the sovereign detains the vessels of an adverse nation in his harbours, the other where he suspends the sailing of those of his own subjects. The former generally takes place on a declaration of war, and is sanctioned by the law of nations; the latter is a matter of internal administration, involving, in this country, questions as to the power of the crown. On the issuing of a declaration of war, it has become, by the practice of Europe, generally the first step, to lay an embargo on such vessels of the country declared against as may happen to be in the ports of the government declaring. This step is reconciled with the old principles of the law of nations by the view, that the *casus belli* and virtual declaration will have taken place before the literal proclamation. With regard to the right of placing an embargo on British ships or subjects, it is of a wider range in time of war than in time of peace, and seems in the former case to embrace all those occasions where the prohibition can be presumed necessary or useful to the national defence. In time of peace, however, the crown must exercise the right within the limits which the law allows, the extent of which is somewhat doubtful. In 1766, a proclamation was issued prohibiting the exportation of corn, on account of the risk of famine; but it was thought necessary to pass an act of indemnity (7 Geo. III. c. 7), which characterized the order as one that "could not be justified by law, but was so much for the service of the public, and so necessary for the safety and preservation of his Majesty's subjects, that it ought to be justified by Act of Parliament." The proprietors of the embargoed ships were indemnified, which they would not have been had the embargo been legal. Loss by embargo is one of those which underwriters have to make good; while a breach of embargo is one of those breaches of warranty which release them from their obligation. An embargo laid on by the government of the country in whose port a vessel is, being but a temporary suspension, does not dissolve a contract for the employment of the vessel. But in the case of a British subject freighting a vessel which is subject to embargo on account of hostility to the country to

ship belongs, he will not be responsible for terminating the contract if of the voyage would be likely to be defeated by delay. (*Chitty on L.* s, 68-73. *Abbot*, 429-431. *Marshall*, 511.)

ALD, a beautiful ornamental stone of a peculiar green colour, which it contains the intermixture of a small proportion of chrome. The common form is the hexahedral prism; transparent or translucent; lustre vitreous. It scarcely differs from beryl, except in colour. Localities, Egypt, Nevada, Hindostan, Germany. "The most splendid crystals of emerald are found in a vein of magnesian limestone, which traverses a hornblende rock at Muso, near Fé de Bogota, in New Granada; some of these have been found exceeding six inches in length and breadth. Less distinct varieties occur at Mount Sinai in Upper Egypt, the only locality of emerald with which the ancients are known to have been acquainted." (*Phillips' Mineralogy*.)

EMERY, a granular variety of corundum usually mixed with iron ore. Its colour is intermediate between grayish black and blueish gray. Lustre glistening. Sp. gr. 4. It occurs abundantly in the isle of Naxos, and at Smyrna. It is used for grinding and polishing hard minerals and metals.

EMIGRANT, in a general sense, is a person who leaves a country with all his family to settle permanently in another, but it is more commonly applied to an individual who leaves an old and thickly-settled country, to establish himself in one where there is abundance of land that has never been cultivated, and a scattered population. Emigration to new countries is a necessary consequence of the constitution of man and society; but in order that it may be a successful undertaking, it is essential that it should include both capitalists and labourers, or persons who combine both characters. The abstraction of capital from the mother country might seem so much good taken from the mother country, but this is more than compensated by greater advantages. A system of emigration, based upon right principles, is calculated to keep the pressure of population upon the means of subsistence in an old country, constantly in a healthy condition; while the emigrants, in their new settlements, through the medium of commercial exchange, maintain a connection with the parent state, which is ultimately much more productive of wealth than if they had never withdrawn. Thus many who settle in North America or Australia, with nothing but their sinews and their industry, become possessors of land and flocks, and purchase much more of the products of labour and capital than if they had remained at home.

Emigrants from this country have hitherto mostly proceeded to the United States and Canada; but of late a considerable number have also gone to Australia, and not a few to New Zealand. The greatest number of persons who have hitherto emigrated in any one year was in 1832, when, according to the public returns, they amounted to 103,313; of whom there went to our North American colonies 66,339; United States, 32,980; Australian settlements, 3792; and Cape of Good Hope, 202. The official statements of the number of emigrants are, almost necessarily defective, as many persons proceed from the British colonies as emigrants on board vessels which are not wholly devoted to the conveyance of passengers, and of whom no record is kept at the custom-house. It ought to be noticed, in reference to the above-mentioned distribution of emigrants, that a large proportion of those who proceed to the United States have no intention of settling there, but, in proceeding to Upper Canada, take the route of New Brunswick, in preference to the St Lawrence, the navigation of which is both tedious and dangerous. The greater part of the emigrants from the United Kingdom are from Ireland.

Following is, in general terms, the nature of the conditions on which public land may be acquired in the colonies:—In the Port Phillip district of New South Wales, and in Western and Southern Australia, they are sold at a fixed price, for the present established at £1 per acre. In the following colonies sales of land are by auction, and take place at certain periods, the land being offered at successive upset prices; namely, Sidney district of New South Wales, commencing with the present all parts except the Port Phillip district, 12s. per acre; Van Diemen's Land, 12s.; Ceylon, 5s.; New Brunswick, 2s. 6d. The Canadian rates cannot be stated with certainty, until after they shall have been revised by the united Canadian legislature, now in the course of being assembled. In the Port Phillip district and in Western Australia, the land is divided into lots of 320 acres, or one square mile. In Canada, the lot has generally been 200 acres; in Ceylon, 160 acres; in Van Diemen's Land and the Sydney district of New South Wales, the lot is one square mile, except under special circumstances.

In New South Wales, which was founded as a penal settlement, the supply of labour has been chiefly furnished by convicts ; and this system, though in less favour than formerly, is still continued. With the view, however, of facilitating voluntary emigration, government now grants a free passage to labourers and mechanics accustomed to out-door work and not exceeding 35 years of age, proceeding to that colony or Van Diemen's Land. A similar advantage is granted by the South Australian Company and the New Zealand Company to labouring emigrants from the United Kingdom to their respective territories, the funds for that purpose being derived from the sale of their lands,—a purpose to which they are specially appropriated ; but no system of this kind has hitherto been established in reference to Canada or the other colonies.

Most of the emigrants from this country being persons in humble life, unacquainted with shipping, and the precautions necessary to ensure safety, convenience, and economy, it has been of late years found necessary to place emigration vessels under statutory regulations. The following is an abstract of those at present in force :—

ABSTRACT OF THE PASSENGERS' ACT, 5 & 6 Wm. IV. c. 53 (1835).

§ 1. Act of Geo. IV. c. 21 repealed.

Number allowed on Board, § 2. No ship carrying passengers from the U. K., Channel Islands, or Man, to any place out of Europe, shall carry more than 3 persons (including master and crew) for every 5 register tons of such ship ; and no ship having more than one deck shall carry passengers upon such voyage, unless she be at least 5½ feet in height between decks ; and no ship having only one deck allowed, unless a platform be laid beneath such deck, so as to afford a space 5½ feet high, and no ship shall have more than 2 tiers of berths, while in ships having 2 tiers, there must be an interval of at least 6 inches between the deck or platform and the floor of the lower tier : provided that whatever be the ship's tonnage, no greater number of passengers shall be allowed than after the rate of 1 person for every 10 superficial feet of the lower deck unoccupied by goods or stores not being passengers' luggage, if such ship shall not have to pass the line on her voyage, or after the rate of 1 person for every 15 clear superficial feet if such ship have to pass the line.

Water and Provisions, § 3. No ship as aforesaid shall be cleared out unless there be on board good provisions for the use of the passengers, over and above the victualling of the crew, as follows ;—namely, 5 gallons of water to every week of the computed voyage for every passenger, such water being carried in tanks or sweet casks, and 7 lbs. of bread, biscuit, oatmeal, or bread-stuffs to every such week for every passenger. To the extent of one-third of such supply, 7 lbs. of potatoes may be held equivalent to 1 lb. of bread, biscuit, oatmeal, or bread-stuffs, in the supply of any ship bound to N. America. When any ship shall be destined to call at a place in the course of her voyage for the purpose of filling up her water, a supply at the above rate for every week of the computed voyage to such place shall be deemed a compliance with the act.

Computed Time of Voyage, § 4. The number of weeks deemed necessary for a voyage shall be computed according to the following rule : namely, for a voyage to N. America, 10 weeks ; to S. America, on the Atlantic, or to the W. coast of Africa, 12 weeks ; to the Cape of Good Hope, 15 weeks ; to the Mauritius 18 weeks ; any other voyage, 24 weeks.

EMPORIUM, OR MART, a principal place for the importation and sale of merchandise. Such a place was formerly called a *staple*.

ENAMEL (Fr. *Email*. Ger. *Schmelz*. It. *Smalto*), a kind of glass of which there are several varieties, generally opaque and coloured,—always formed by the combination of different metallic oxides, to which certain fusible salts are added, such as the borates, fluates, and phosphates. It is prepared for the use of the

Survey of Provisions and Berthage, § 5. Before any such ship shall be cleared, the officers of customs shall survey, or cause to be surveyed by some competent person, the provisions, water, and berths as aforesaid, and shall ascertain that there is besides an ample supply of water and stores for the crew.

Prices of Provisions, § 6. The master shall cause a table to be drawn up of the prices at which stores are to be sold by any person on board, and no higher prices shall be charged during the voyage ; but this shall not be construed as requiring the master to provide stores for sale to passengers who have contracted to victual themselves.

Miscellaneous Enactments, § 7. If doubts arise as to seaworthiness of ship, which are not removed to the satisfaction of the principal officer of customs, the ship is to be surveyed by two competent persons.

§ 8. Two copies or abstracts of this act shall be kept on board, one of which to be furnished by master for perusal of passengers when required.

§ 9. Every such ship carrying (except to N. America) 100 passengers, must have a medical practitioner, with the requisite medicines, on board.

§ 10. Such ships prohibited from exporting spirits.

§ 11. Master to deliver list of passengers to officer of customs.

§ 12. Passengers not to be landed at place not contracted for.

§ 13. Two children under 14 years, but above 7, or three under 7, shall be reckoned as one person ; infants under 12 months not counted.

§ 14. Unless ship detained by stress of weather, or some other unavoidable cause, passengers to be victualled during any detention which may take place beyond time stipulated.

§ 15. Passengers to be maintained for 48 hours after their arrival.

§ 16-19. Penalties, &c.

§ 20. This act not to extend to ships carrying passengers in cases where the number of persons, computed as before, shall not exceed 1 for every 5 tons, nor to government ships.

§ 21. Bahamas, and places in America southward thereof, shall be deemed to be in S. America.

inter in enamel, and for enamelling watch and clock dials, jewellery, and other articles. The best is brought from Venice in round cakes, about six inches in diameter, and half an inch thick.

ENDOWMENT, in Life Insurance, is a term applied to the assurance of a capital sum on survivorship of time.

ENGRAVINGS. Those who invent or engrave, or cause to be invented or engraved, works of art, maps or plans, on plates, enjoy a copyright in them for twenty-eight years from the day of publication. (8 Geo. II. c. 13; 7 Geo. III. c. 1, § 1, 7; 17 Geo. III. c. 57.)

ENGROSSING, the purchasing of large quantities of any commodity, in order to sell it again at a high price. [CORN.]

ENTREPOT, a place into which commodities are imported and stored, with the view of being afterwards re-exported to some other place for consumption.

ENTRY. [CUSTOMS REGULATIONS.]

EPSOM SALTS (Fr. *Sel d'Epsom*. Ger. *Epsom Salzs*), or Sulphate of Magnesia, is a well-known saline bitter medicine which derives its name from having been formerly obtained from the springs of Epsom in Surrey. It occurs native, but is usually procured from the *bittern* remaining after the extraction of sea-salt from seawater; it is also largely obtained in some alum-works, and occasionally from saline springs. Besides being used in medicine, it is largely consumed for the preparation of carbonate of magnesia.

EQUATION OF PAYMENTS. When several sums of money due at different times are owing from one person to another, it is sometimes required to find the time when they may be all discharged in one payment without injury to either party: this is called *equating the payments*; and the principle of the rule consists in finding the time when the interest of the sums which are deferred till after they are due is equal to the discount of those which are paid before they are due.

1. RECKONING SIMPLE INTEREST.

Rule.—Multiply each sum by the time when it is due, then divide the sum of these products by the total debt; the quotient is the time at which all the money ought to be paid.*

Example.—A sum of £300 is due on 2d March; £350 on 18th March; and £525 on 17th April; required an average time for the payment of them all in one sum?

The number of days from the 2d to the 18th of March is 16; and from the 2d March to the 17th April, 46; hence,

$$\begin{array}{rcl} 300 \times 0 & = & 0 \\ 350 \times 16 & = & 5,600 \\ 525 \times 46 & = & 24,150 \end{array}$$

$$1,175 \quad . \quad . \quad) 29,750 (25 \text{ days from March 2d, or March 27th nearly.}$$

The distance of time is calculated from the 2d March, because the first sum becoming due on that day, there is no discount to calculate upon it.

2. RECKONING COMPOUND INTEREST.

Rule.—From the logarithm of the sum of all the debts subtract the logarithm of the sum of the present values of such debts, and divide the remainder by the logarithm of the amount of £1 in a year, at the given rate of interest: the quotient will be the equated time required. (*Baily*, p. 94.)

Example.—Suppose A were indebted to B in the sum of £750, which was to be paid in three instalments; namely, £250 at the end of 1½ year; £100 at the end of 2 years; and the remaining £400 at the end of 4 years; in what time, reckoning compound interest at 6 per cent., ought the whole to be discharged in one payment?

Here we have the sum of all the debts = 750, and the sum of their present values = 634·913963. [INTEREST AND ANNUITIES.] Consequently,

$$\frac{\text{Log. 750} - \text{Log. 634·913963}}{\text{Log. 1·06}} = \frac{·0723463}{·0253059} = 2·85887, \text{ or 2 years and 313 days.}$$

ERMINE (Fr. *Hermine*. Ger. *Hermelin*. It. *Armellina*), a species of weasel (*Mustela candida*) which produces the most valuable of the furs. It is of perfect whiteness, except the tip of its tail, which is of a brilliant shining black. The fur of the older animals is preferred to the younger. It is taken by means of snares,

* This rule is founded on the supposition that we are to find the time when the interest of the sums which are kept till after they are due, is equal to the *interest*, and not to the *discount*, of those which are paid before they are due; this, however, is not strictly correct; but since the erroneous practice universally prevails of taking the interest instead of the discount from sums which are due at a future period [DISCOUNT], the above rule is generally adopted in business as affording a near and convenient practical approximation. The substitution of interest for discount is, of course, to the advantage of the debtor.

In Mr Baily's Doctrine of Compound Interest and Annuities (p. 92), an analytical formula is given which brings out the true value for two sums; but where they are more numerous the formula becomes too complicated; and there is no rule, fit for general use, by which we can obtain the exact values when simple interest only is reckoned. Where compound interest, however, is computed, the true equated time may in all cases be determined with the greatest accuracy by the rule given in § 2.

and sometimes shot with blunt arrows. The ermine of the best quality is procured only in the cold regions of Europe and Asia. An animal called the *stoat*, a kind of ermine, is said to be found in N. America, but it is very inferior to the European and Asiatic.

ERRORS EXCEPTED. [ACCOUNT.]

ESPARTO, or SPARTO, a plant (*Stipa tenacissima*) growing in Spain and Africa, anciently held in esteem for the manufacture of cordage, but now nearly in disuse, except in the countries of its production. It is found wild in places so barren as scarcely to produce any other spontaneous vegetation. At the present time it is used by the Spaniards for various purposes, especially in the manufacture of a kind of shoe, or rather sandal, called *alpergates*, much worn by the Catalans. The sparto of Africa is very inferior.

ESSENCES, either ethereous oils, in which all the fragrance of vegetable products reside, or the same combined and diluted with alcohol.

ESSENCE OF BERGAMOT OR LEMON, the essential oil obtained from the lemon and bergamot orange, by expression of the rind. It is yellow, fluid, very fragrant, and is imported from the Mediterranean for the use of perfumers.

ESSENCE OF SPRUCE is prepared by the decoction of the branches of the fir tree. It is of the colour of treacle, but not so thick, and has a peculiar but not unpleasant taste. It is imported from America, Norway, Russia, and other countries.

ESSENCE D'ORIENT, a beautiful glistening matter obtained from the scales of a small river fish, the blay or bleak, called in French *ablette*, a species of *Cyprinus*. It is found principally at the base of the scales, and is used in the manufacture of artificial pearls.

ESTRICH (Fr. *Duret d'autruche*. It. *Penna matta di struzzo*), the fine soft down which lies immediately under the feathers of the ostrich. The finer kind is occasionally used as a substitute for beaver in the manufacture of hats; the coarser is sometimes fabricated into a species of cloth.

ETHER, a volatile fluid produced by the distillation of alcohol with an acid. Ethers are of different kinds, as sulphuric ether, nitric ether, &c., each being distinguished by the name of the acid by which it is formed. The most common is sulphuric ether, a transparent, colourless, inflammable fluid, of a very fragrant odour and hot pungent taste. It is eminently volatile, and during its evaporation it produces an intense degree of cold. Sp. gr. about .740. It is used for dissolving oils and resins, and for a variety of medical and philosophical purposes.

EUPHORBIVM (Fr. *Euphorbe*. Arab. *Aka nafsah*, *Farfiyan Gholak kala*), a resinous substance produced from several species of African *Euphorbia*, and more particularly from a kind growing on the Atlas Mountains. It is imported from Morocco, and occurs in tears or roundish and oblong masses; odour very weak, and taste at first scarcely perceptible, but afterwards acrid and corrosive. Euphorbium is a strong medicinal drug; the cathartic quality being rather too vigorous for European practice. It is said that the bark of the plant is greatly valued by the native tanners, and that to its singular effects the leather of Morocco owes its chief pre-eminence.

EXCHANGE, a term that is used in reference to those transactions by which the debts of persons residing at a distance from their creditors are liquidated without the transmission of money; being employed by merchants both to designate the bills or negotiable instruments by which transactions of this kind are conducted, and the varying price or *course* of such instruments in the market. The nature, constitution, and negotiation of **BILLS OF EXCHANGE** having been already explained under that head, the present article will be devoted to an explanation of the principles by which exchange transactions are regulated; to which will be added practical formulæ for the ordinary calculations that occur in such transactions.

A foreign bill of exchange is an order addressed to a person residing abroad, directing him to pay a determinate sum of foreign money to the person in whose favour it is drawn, or to his order. The amount of foreign money, therefore, to be paid is fixed by the bill; but the amount of British money (or money of the country in which the drawer resides), to be given for the purchase of the bill, is by no means fixed, but is continually varying.

The causes which influence these variations will be best explained by tracing separately the circumstances determining the price of bills; namely, first, the value of the money in which they are to be paid compared with that with which they are bought, termed the *nominal exchange*; secondly, their abundance or scarcity in the market compared with the demand for them, termed the *real ex-*

re; while the combined effect of the real and the nominal exchange will be afterwards considered in treating of the *computed exchange*.

THE NOMINAL EXCHANGE.

Coins in which the monies of account of different countries are reckoned generally not only in denomination, but in weight and fineness, and consequently in exchangeable value. Moreover, some consist of silver, others of gold. The ruble is the money integer of Russia, the guilder that of Holland, the franc that of France, and the pound sterling that of Britain. But the ruble contains nearly twice as much silver as the guilder, and the guilder about twice as much as the franc, while the pound sterling is represented by a gold coin.

The relative value of the monies of different countries is in general determined according to the quantity of pure silver or pure gold contained in the coins which are the principal media of payment, or legal tender,—alloy never being taken into account; and between two countries employing the same metal for their standard sum of the money of either of the two which in point of intrinsic worth is precisely equal to a given sum of the other, that is, contains precisely an equal weight of silver or gold of the same fineness, is usually termed the *Par of Exchange*.* When two countries employing the one silver and the other gold, there can be no variable par of exchange, as the relative value of these metals is subject to fluctuation; but as this fluctuation has a very limited range, it has been customary to assume a par, founded on their average prices in the market.

In the United Kingdom, gold coin being the legal tender, there is properly no variable exchange, except with the United States, Sicily, and a few of the minor markets on the Continent, where the established media of payment also consist of gold. With countries or places which use silver, only an average or approximate par can be stated. In the valuations of foreign monies in the present time this approximate par is given on the assumption that the proportionate value of gold to silver is as 15½ to 1; standard gold being estimated at its fixed price of £3, 17s. 10½d., and standard silver at its average market price of 5s. 6d.

The two terms of comparison between the money of one place and that of another, one is fixed, the other is variable. The place whose money is reckoned at a fixed price is, in commercial language, said to *receive* the variable price; the other is said to *give* the variable price. Hence the higher the exchange between two places, the more it is in favour of that which receives the variable price; and the lower, the more in favour of that which gives the variable price;—the exchange is said to be favourable or unfavourable to any place, according as a smaller or larger amount of the currency of that place is required for discharging a given sum of foreign payments. Thus London receives from Paris a variable number of shillings and pence for £1 sterling; and taking the par at 25 francs 34 centimes, the exchange will be 5 per cent. in favour of London when it rises to 26 francs 34 centimes, and about 5 per cent. against London when it falls to 24 francs 7 centimes.

When a par to be established, the fluctuations in the *nominal* price of bills between two countries by one country upon another will arise principally from an alteration in the weight or fineness of the coin of either of the countries, or an alteration in the amount of the currency of either country, without a corresponding alteration in the amount of commodities to be circulated. When the currency of a country is depreciated, whether from degradation of the coin, or from relative overissue, it is impossible that the same amount of it should purchase the same sum of foreign money as when it was at its depreciation. A bill on a foreign country, being in fact an order for payment of a given sum of foreign money, will not be sold unless for such an amount of the depreciated currency as will counterbalance the diminution in its value; in other words, foreign bills will bear a premium in proportion to the depreciation. In the same manner, a bill on the country where the currency is

* The definition of the intrinsic par of exchange, which is that given in the Report of the Bullion Committee of the House of Commons in 1810, and generally understood by merchants, is adopted by economists in so far as it does not make allowance for the difference in value of the metals in different countries, owing to the greater facilities enjoyed by some in procuring metals, from their vicinity to the mines or otherwise; but the difference in value thus occasioned is in general very trifling, particularly in Europe, throughout which, according to the late Board of Trade, gold finds its level to within ½ per cent.; and the above is the only sense in which a par can be employed in showing the average relative value of the currencies of different countries by comparison of their coins. For the practical purposes of the bullion merchant or the speculator, however, the par of the day must be carefully deduced from the market prices of the metals in the manner explained below (page 290).

depreciated will be bought abroad, where money retains its value, for a much less nominal sum than the amount for which it is drawn; or, in other words, will be at a discount.

Hence, after a par of exchange has been established, an alteration in the value of money, whether it arises from degradation of the coin, or depreciation of the coin or paper from relative overissue, will alike affect the price of a foreign bill, and be made evident by an unfavourable *nominal* exchange.

In the process of restoration of a currency, after being depreciated, it is scarcely necessary to observe that these phenomena will be reversed.

THE REAL EXCHANGE.

We now proceed to consider the manner in which the market price of bills is affected by their abundance or scarcity, compared with the demand for them on which depend the alterations of the *real* exchange; and as in treating of the *nominal* exchange, we endeavoured to preserve the subject distinct from the *real* exchange, by supposing the price of foreign bills to be unaffected by any variation in their abundance or scarcity; so in tracing the effect of the *real* exchange we shall suppose the state of the *nominal* exchange to remain unaltered, and that no change takes place in the value of the currencies in the respective countries.

In the commercial intercourse between two countries, when neither of them imports from the other to a greater amount than it exports to the same country, the bills drawn *by* the merchants exporting produce will exactly equal in amount the bills drawn *on* the merchants importing produce, and their mutual debits and credits will be liquidated without the transmission of coin or bullion.* In this case the supply of bills being equal to the demand for them, they will neither bear a premium nor be at a discount, and the *real* exchange, however the *nominal* exchange may alter, will be at par.

But it seldom or never happens that the exports and imports are so exactly equal as to leave no balance. When the imports are in excess, and more payments have to be made than received, the importer, rather than incur the expense of transmitting coin or bullion, will be induced to give more for a bill of exchange upon a party in the creditor country than the sum for which it is drawn. A competition will thus be created among the purchasers of bills upon the creditor country, and the holders will refuse to part with them, except an additional price be given as a premium in proportion to the demand. In the creditor country, on the contrary, there will be more persons holding than there are wanting bills, and the excess above the demand can only be converted into coin or bullion by sending them to the place upon which they are drawn. But this operation involving the expense and risk attending the transit of the bullion, the holder of a bill on the creditor country, if he be desirous of converting it into money, will be content to receive something less than its amount. There will therefore be in the creditor country a competition to sell, and bills will be at a discount in proportion to the supply. The premium in one country will correspond with the discount in the other. But neither the premium nor the discount can for any long time exceed the expense of transmitting bullion, which therefore forms the natural limit to the fluctuations of the *real* exchange between any two countries.

The transit of bullion, however (unless from countries producing the precious metals), rarely occurs except in small quantities: international accounts are never closed; and various facilities exist for warding off such a state of things as would take place if a periodical settlement were enforced as in accounts between individuals.

1st, The tendency of an unfavourable state of the *real* exchange is to stimulate exportation and check importation. Commodities which would only just pay with exchange at par, would yield a profit sufficient to induce exportation, where the exporter could secure 1 or 2 per cent. more for the draft upon his foreign debtor. On the other hand, an imported commodity which was only just paying

* The balance of trade and the balance of payments are here assumed to be identical,—a supposition true in the general case, and convenient for illustration. When, however, two countries sell to each other on unequal terms of credit, these two balances may be materially different; and, as it is by the balance of payments that the market rate of exchange is regulated, their distinction must be borne in mind,—more especially in reference to the exchanges of this country, in which the exporters almost invariably allow a much longer credit than is received by the importers. The balance of trade between the United States and Great Britain is believed to have been in favour of the latter from the date of planting the first British colony in America,—of late years to the amount sometimes of one hundred millions of dollars or upwards; yet, owing to the longer credit allowed by our traders, the exchange has not always been in our favour, but, on the contrary, has been so controlled by the balance of payments as frequently to have been against us.

when exchange was at par, would cease to yield a profit sufficient to induce importation when the importer should have to pay a premium for a foreign bill if he remit one to his foreign creditor, or a discount added to the invoice price if his creditor draws upon him. Thus, by the stimulus to exportation the supply of bills would be increased, while by the check to importation the demand for those bills would be lessened; both causes operating to restore the exchange to its natural level or par. In the same manner, a favourable exchange will act as a duty upon exportation, and as a bounty upon importation. In the case of the *nominal* exchange, however, these effects would not be produced, as the same fall in the value of the currency which renders the exchange unfavourable, and causes foreign bills to sell at a premium, must increase in an equal degree the price of all commodities; and *vice versa*.

In exporting during an unfavourable state of the exchange, it is plain that the merchant will, as in the ordinary conduct of his business, select those commodities which, besides the premium afforded by his bill, will give him the greatest profit by the difference of price abroad and at home; and it is not difficult to see that these exports must generally consist of consumable produce, and not bullion, which of all commodities is that which is subject to the least variation in its real price. "The annual quantity produced from the mines is very nearly constant,—its distribution, from the facility with which it is transported, is exceedingly uniform,—and its value, and consequently its real price, throughout Europe at least, must be considered as nearly the same. Unless then the bounty afforded by the unfavourable state of the *real* exchange were greater than the expenses attending the transit of bullion, it would be of all others the commodity least likely to be selected by the exporting merchant." (*Blake on Exchange*, p. 21.)

2d, This natural tendency of the exchange to correct itself is promoted by the operations of the bill merchants, who study the exchanges, not only between the place at which they reside and all other places, but also between all those other places themselves, by which means they are generally enabled to realize a profit by buying bills in one place and selling them in another;—in this way preventing any great fall in the price of bills in those countries in which the supply exceeds the demand, and any great rise in those countries in which the supply happens to be deficient. Sometimes exchange operations are conducted with little outlay of capital. Thus, if a bill merchant in London can sell a bill on Amsterdam at half per cent. premium, and buy one at Paris at half per cent. discount, and with the latter buy one at Paris on Amsterdam at par, he will have gained 1 per cent. by the transaction, without the employment of any capital;—the bill remitted from Paris to Amsterdam arriving in time to meet the bill drawn there upon his correspondent. Again, a bill merchant, in order to take advantage of a premium on the exchange, may obtain a credit abroad upon which he may draw bills, under the calculation that at some future and not very distant period he will be able to replace the funds at a lower rate of exchange, and thereby realize a profit by the operation. The central points for such transactions are Hamburg, Amsterdam, Vienna, Paris, New York, and above all, London, the great money change of the world.

3d, A variety of other expedients are also occasionally adopted, particularly in the United States, where the extension of credits by the consent of the foreign creditors upon allowing interest for the extended term, and the transmission of public securities, bank, railroad, and canal shares, are all well known levers in the mechanism of trade, by which the tendency of an unfavourable balance of payments to cause an exportation of bullion is frequently neutralized.

4th, When all these measures fail in keeping down the price of bills, and the premium exceeds by a very small amount the expenses of the transit of bullion, its exportation will immediately commence; for the same uniformity of value and of price which, as already noticed, would prevent bullion being exported before the premium exceeded those expenses, would be the very cause why, as soon as the premium had exceeded that point, it would be immediately chosen as the most eligible for exportation, more especially in the greater exchange markets, where the bullion merchants are generally distinguished for intelligence, large capital, and the small profits upon which they transact their business. The foreign debt will then begin to be paid by the bullion merchants exporting to take advantage of the premium, and their competition will soon bring down the real exchange so as no longer to afford a profit upon the export of this article. The exporters of consumable produce will, during this period, co-operate with the bullion merchants; and when the latter have ceased to derive a profit, the former will still

continue their operations, till the exports have been such as to counterb the adverse debt, and render the quantity of foreign bills in the market eq the demand.

5th, Only a small part, however, of an unfavourable balance can be liqu by the transit of bullion, as its exportation cannot take place to any comm degree without affecting the market price of that article itself ;—raising it country from which it is sent, and reducing it in that into which it is flowi that if, in the first instance, the difference of price in the home and market were but just sufficient to induce the bullion merchant to expor clear that after the change has taken place, the exportation of bullion un same rate of exchange will cease. “The transit of bullion,” says Mr “from a high or low *real* exchange is an unnatural transit, not arising fr wants of the country into which it flows, but depending solely on the profits a temporary pressure for foreign payments affords to the bullion mercha the sale of foreign bills ; and as soon as the cause that has produced th porary influx subsides (an event that will sooner or later necessarily take pl the import of such ordinary produce as is wanted for the purposes of consum and increased enjoyment of the people), the superfluous and unused quan bullion that has been accumulated will flow back from the country its abundance has rendered its real price low, to those nations from which been unnaturally sent, and where its scarcity will have rendered its rea high.” (P. 33.)

Hence it appears, that whenever there is a balance of payments due by a c the *real* exchange will become unfavourable, and the price of foreign bills wi a premium, and *vice versa* ; that the natural limit to the amount of this pr is the expense of the transit of bullion ; and before it has arrived at that poi export of ordinary produce will be forced, and its import restrained ; so th *real* exchange can scarcely begin to deviate from par, without calling into a principle that will correct its deviation.

THE COMPUTED EXCHANGE.

The *computed*, or actual course of exchange, depends on the combined of the nominal and real exchange. These being perfectly independent of each it is obvious that if both are favourable, or both unfavourable, the *compu* change will denote their sum ; that if the one is favourable while the other favourable, it will express their difference ; and that it may be at par, t neither the real nor the nominal exchange are so, provided the unfavourable of the one be counteracted by the favourable state of the other. The state exchange at any particular period is best ascertained by a comparison of th ket with the mint price of bullion ;—the excess of the former above the affording in general an accurate measure of the depreciation of the cur Thus, if the market and mint price of bullion at London and New York e corresponded, and if the value of bullion were the same in both places, the exchange would be at par, and whatever variations might occur in the co or actual course of exchange, would have to be referred to fluctuations in th exchange, or in other words, in the demand and supply of bills. But if, wh market price of bullion in London is equal to its mint price, it exceeds it cent. in New York, this proves that New York currency is depreciated 10 per and consequently the *nominal* exchange between London and New York m 10 per cent. against the latter. Again, if while the value of New York cu was 10 per cent. less than the value of British currency, the *computed* or course of exchange between London and New York was 12 or 13 per cent. a the latter, it would show that the *real* exchange was also against New York extent of 2 or 3 per cent. : On the other hand, if the *computed* exchange wa 5 or 6 per cent. against New York, it would show that the *real* exchange wa 4 per cent in its favour.

The oscillations of the exchange are now unimportant compared with wha were during the last war, when most of the European governments resorted convertible paper money, which, by its overissue and consequent depreci disturbed the *nominal* exchange, while the *real* exchange was generally m less influenced by remittances for the maintenance of troops abroad, or on ac of foreign subsidies. At present the rates in Wetenhall's “Course of th change,” given below, are all expressed in currency, either metallic, or di convertible into metallic money, except those on Rio Janeiro, Bahia, and B Ayres, where it consists almost entirely of depreciated paper ; the current

Denmark, Sweden, and Norway consist chiefly of depreciated paper, but these countries have seldom a direct course with London, their exchange business being generally transacted in banco through the medium of Hamburg. The *real* exchange is now also, in ordinary times, maintained with considerable steadiness; the chief fluctuations to which it is liable arising from the effects of favourable or unfavourable seasons on the customary produce of the land. In this country a deficient harvest, actual or anticipated, leads directly to a demand for bills on the foreign wheat ports, and indirectly to a demand for paper upon all places which hold commercial intercourse with such ports, or through which remittances may be made. The unfavourable exchange thus produced, occasions commonly an exportation of bullion; but it is evident, on the principles already explained, that this efflux can be only of limited amount and temporary duration.

Besides the circumstances now explained, the price of a bill will of course be influenced by the credit of the parties to it, and by the time which it has to run. In the actual negotiation of bills, however, any small difference of time is not taken into consideration,—a bill at 90 days' date frequently bringing as good a price as one at 75 days' date. *Short* bills, that is, bills at sight, or at short sight, which is generally 3 days' sight, do not usually bear a price higher than long-dated bills, proportional to the interest for the difference of time, as the latter are preferred for exchange speculations, from their affording an opportunity to wait, if it should be judged expedient, for an improvement in the rate.

In this country the buying and selling of bills on foreign countries is conducted by brokers, all such transactions centring in the metropolis. In London the days for the negotiation of foreign bills are Tuesdays and Fridays, the *Foreign post-days*. The brokers go round to the principal merchants, and discover whether they are buyers or sellers; and a few of the more influential, after ascertaining the state of the market, suggest a price at which the greater part of the transactions are settled, with such deviations as particular bills may be subject to from their high or low credit. For the bills they buy on one post-day, houses of established credit pay on the following post-day, when they receive the second and third bills of the set;—foreign bills being usually drawn in sets of three. The brokerage charged on bills is 1 per mille, or $\frac{1}{10}$ th per cent.

On the evenings of Tuesdays and Fridays, the market rates for bills on all the principal foreign cities, with the current prices of bullion, are published in Wetenhall's "Course of the Exchange," from which the following is extracted:—

COURSE OF EXCHANGE, LONDON, FEBRUARY 11, 1840.

	Time.	Rates.	Explanations.
Amsterdam	3 m/d.	12 4½	Florins and Stivers for £1.
Ditto, at sight.....	short	12 1½	Florins and Stivers for £1.
Rotterdam.....	3 m/d.	12 5	Florins and Stivers for £1.
Antwerp.....		12 5	Florins and Stivers for £1.
Hamburg.....		13 12	Marks and Schillings Banco for £1.
Altona.....		13 12½	Marks and Schillings Banco for £1.
Paris, 3 days' sight.....	short	25 40	Francs and Centimes for £1.
Ditto.....	3 m/d.	25 65	Francs and Centimes for £1.
Marseilles.....		25 65	Francs and Centimes for £1.
Bordeaux.....		25 70	Francs and Centimes for £1.
Frankfort (Maine).....		150½	Batzen for £1.
Berlin.....		7 0	Dollars and Groschen for £1.
Vienna.....	3 m/d.	10 4	Florins and Kreuzers (<i>effective</i>) for £1.
Trieste.....		10 6	Florins and Kreuzers for £1.
Lepora.....		30 60	Tuscan Lire and Centesimi for £1.
Genoa.....		25 80	Lire Nuove and Centesimi for £1.
Milan.....		31 0	Lire Austriachi and Centesimi for £1.
Venice.....		47	Pence for 6 Lire Austriachi.
Naples.....		41½	Pence for 1 Neapolitan Ducat.
Palermo.....		123	Pence for 1 Oncia.
Madrid.....		37	Pence for 1 Dollar of Plate.
Cadix.....		36½	Pence for 1 Dollar of Plate.
Barcelona.....		36	Pence for 1 Dollar of Plate.
Gibraltar.....		48	Pence for 1 Hard Dollar.
Lisbon.....	60 d/d.	54½	Pence for 1 Milreis.
Oporto.....		55	Pence for 1 Milreis.
Petersburg.....	usance	37½	Pence for 1 Silver Ruble.
Rio Janeiro.....	60 d/s.	27	Pence for 1 Paper Milreis.
Bahia.....		26	Pence for 1 Paper Milreis.
Buenos Ayres (?).....		5	Pence for 1 Paper Dollar.
New York.....	21 d/s.	46½	Pence for 1 Dollar.
Philadelphia.....		46	Pence for 1 Dollar.

PRICE OF BULLION.—Foreign gold in bars (standard), per ounce £3 17 9
Silver in bars (standard) 0 5 0½

When the exchange becomes more favourable to London, the fore the upper part of the list will rise, the sterling rates in the lower par when the exchange becomes less favourable, the former will fall, the rise. Again, the tendency of bullion is to fall in price as the exchan favourable, and to rise as it becomes unfavourable.

THE INLAND EXCHANGE.—The principles now explained are all ap the inland exchange ; but, in the United Kingdom at least, the unifor the currency renders unnecessary any comparison between the value of at the place where the bill is drawn with its value at the place where paid ; while the constant intercourse maintained between the different country prevents those fluctuations which occur in the market price of f Inland remittances are generally conducted by bankers, who, by havin London and other cities, are enabled on all occasions to supply the their customers. The great centre of the inland as well as of the foreig is London, occasioned partly by its immense commerce, and by its curre ing of Bank of England paper, for which the notes of the country ban dered exchangeable, but chiefly by its being the seat of the governme place to which the revenue is remitted. Owing to these circumstances, th between the capital and the other parts of the kingdom is invariably in The premium for bills on London, or rather letters of credit, the for inland remittances are now chiefly made, is usually commuted for a f of time, termed the *Par Date*. The par date for remittances to L Edinburgh or Glasgow (exclusive of the 3 days of grace), is 20 day London, bills or letters of credit on these places are commonly grant charge. In Liverpool, the banks draw on London at 21 days' date ; also at 7 days' sight, charging $\frac{1}{2}$ per cent. of commission. In Dublin a bills on London are drawn at 21 days' date, and letters of credit are gr premium of $\frac{1}{2}$ per cent.

FORMULÆ FOR EXCHANGE CALCULATIONS.

The rules for performing exchange calculations having been alread plained, under the head **CHAIN RULE**, we shall here confine ourselves a selection of formulæ ; giving, in the first place, those applicabl remittances, and afterwards a few examples in indirect exchanges a operations.

DIRECT EXCHANGES.

LONDON ON AMSTERDAM.
Exchange 12 fl. 4 $\frac{1}{2}$ stivers.
1000 florins ?
1 florin = 20 stivers.
244 $\frac{1}{2}$ stivers = £1.
Or what is the same ;
Exch. 12 fl. 22 $\frac{1}{2}$ cents.
1000 florins ?
1 florin = 100 cents.
1222 $\frac{1}{2}$ cents = £1.
Answer. 1000 florins = £81, 16s.

LONDON ON PARIS.
Exch. 25 fr. 65 cts.
1000 francs ?
1 franc = 100 cents.
2565 cents = £1.
Ans. 1000 francs = £38, 19s. 8 $\frac{1}{2}$ d.

LONDON ON HAMBURG.
Exch. 13 mks. 12 schill. Bca.
1000 marks Bca. ?
1 mark Bca. = 16 schillings.
220 schillings = £1.
Ans. 1000 Bca. marks = £72, 14s. 6 $\frac{1}{2}$ d.

LONDON ON LUBEC.
Exch. { On Hamburg, 13 mks. 12 schill. Bca.
 { On Lubec, 24 per cent.
1000 current marks ?
124 cur. marks = 100 marks Bca.
1 mark Bca. = 16 schillings.
220 schillings = £1.
Ans. 1000 cur. marks = £58, 9s. 7d.

AMSTERDAM ON LON.
Exchange 11 fl. 95 cents.
£100 ?
£1 = 1195 ce
100 cents = 1 fl
Answer. £100 = 1195 florins.
N.B. The stiver is retained in the not in the Amsterdam course of exc

PARIS ON LONDON
Exch. 25 fr. 10 cts.
£100 ?
£1 = 2510 ce
100 cents = 1 fr
Ans. £100 = 2510 francs.

HAMBURG ON LOND
Exch. 13 mks. 7 schill. B
£100 ?
£1 = 215 schill
16 schillings = 1 mar
Ans. £100 = 1343 marks 12 schill

LUBEC ON LONDON
Exch. { On Hamburg, 13 mks. 8
 { On Lubec, 23 $\frac{1}{2}$ per cent.
£100 ?
£1 = 216 sch
16 schill. Bca. = 1 ma
100 marks Bca. = 123 $\frac{1}{2}$ ce
Ans. £100 = 1667 cur. mks. 4 sch

LONDON ON VIENNA.

Exch. 9 florins 4 kreusers.
 1000 florins?
 = 60 kreusers.
 = £1.
 £99, 6s. 9d.

LONDON ON VENICE.

Exch. 47 pence.
 1000 Lire Aus.?
 = 47 pence.
 = £1.
 Ans. = £32, 12s. 9½d.

LONDON ON MILAN.

Exch. 31 Lire Austriachi.
 1000 Lire Aus.?
 = 100 centesimi.
 = £1.
 Ans. = £32, 5s. 2d.

LONDON ON NAPLES.

Exch. 41½ pence.
 1000 ducats?
 = 41½ pence.
 = £1.
 = £171, 17s. 6d.

LONDON ON LISBON.

Exch. 54½ pence.
 1000\$000?
 = 54½ pence.
 = £1.
 = £228, 2s. 6d.

LONDON ON BERLIN.

Exch. 7 Pruss. dol.
 1000 P. D.?
 = 30 groschen.
 = £1.
 = £142, 17s. 1½d.

LONDON ON ST PETERSBURG.

Exch. 37½ pence.
 1000 rubles?
 = 37½ pence.
 = £1 sterling.
 = £156, 5s.

LONDON ON PALERMO.

Exch. 123 pence.
 1000 oncie?
 = 123 pence.
 = £1 sterling.
 = £512, 10s.

LONDON ON MADRID.

Exch. 37 pence.
 1000 Reals v.?
 = 17 Reals plate.
 = 37 pence.
 = £1 sterling.
 rate and by 17, and divide by
 = £10, 4s. 9d.

LONDON ON LEGHORN.

£ T. 30, 60 cents.
 1000 Lire T.?
 = 100 cents.
 = £1.
 = £32, 13s. 7d.

LONDON ON NEW YORK.

¼ per cent. Premium.
 \$1000?
 = \$100.
 = £9 sterling.
 £201, 15s. 10½d.
 Exch. 46½ pence.
 \$1000?
 = 46½ pence.
 = £1 sterling.
 £193, 15s.

Apply the premium method, given above, the fixed par of 4s. 6d. per dollar is equivalent proportion, £9 = \$40, according to usage in exchange calculations.

VIENNA ON LONDON.

Exch. 9 florins 48 kreusers.
 £100?
 £1 = 588 kreusers.
 60 kreusers = 1 florin.
 Ans. £100 = 980 florins.

VENICE ON LONDON.

Exch. 48 pence.
 £100?
 £1 = 240 pence.
 48 pence = 6 Lire Aus.
 Ans. £100 = 3000 Lire Austriache.

MILAN ON LONDON.

Exch. 29 Lire 30 cents Aus.
 £100?
 £1 = 2930 centesimi.
 100 cent. = 1 Lira Aus.
 Ans. £100 = 2930 Lire Austriachi.

NAPLES ON LONDON.

Exch. 610 grani.
 £100?
 £1 = 610 grani.
 100 grani = 1 ducat.
 Ans. £100 = 610 ducats.

LISBON ON LONDON.

Exch. 57 pence.
 £100?
 £1 = 240 pence.
 57 pence = 1 \$000.
 Ans. £100 = 421 \$053.

BERLIN ON LONDON.

Exch. 6 P. D. 24 groschen.
 £100?
 £1 = 204 groschen.
 30 groschen = 1 Pruss. dollar.
 Ans. £100 = 680 Prussian dollars.

ST PETERSBURG ON LONDON.

Exch. 38 pence.
 £100?
 £1 = 240 pence.
 38 pence = 1 ruble.
 Ans. £100 = 631 rubles 58 copeca.

PALERMO ON LONDON.

Exch. 60 tari.
 £100?
 £1 = 60 tari.
 30 tari = 1 oncie.
 Ans. £100 = 200 oncie.

MADRID ON LONDON.

Exch. 36 pence.
 £100?
 £1 = 240 pence.
 36 pence = 8 Reals plate.
 17 Reals plate = 32 Reals vellon.
 Multiply by 61440, and divide by the rate multiplied by 17.
 Ans. £100 = 10039 Reals v. 7 maraved.

LEGHORN ON LONDON.

Exch. £ T. 30, 10 cents.
 £100?
 £1 sterling = 3010 cents.
 100 cents = 1 Tuscan Lira.
 Ans. £100 = £ T. 3010.

NEW YORK ON LONDON.

Exch. 7½ per cent. Premium.
 £100?
 £9 sterling = \$40.
 \$100 plus prem. = \$107½.
 Ans. £100 = \$477.78 cts.
 Exch. \$4.80 cts.
 £100?
 £1 sterling = 480 cents.
 100 cents = \$1.
 Ans. £100 = \$480.

LONDON ON MONTREAL.

Exch. 17½ per cent. premium.

£117, 10s. currency, } = £100 currency?
 less prem. }
 £10 currency = £9 sterling.
 Ans. £1000 currency = £763, 19s. 2d. sterling.

LONDON ON JAMAICA.

Exch. 18 per cent. Premium.

£118 currency, } = £100 currency?
 less prem. }
 £7 currency = £5 sterling.
 Ans. £1000 currency = £605, 6s. 6½d. sterling.

MONTREAL ON LONDON.

Exch. 15 per cent. Premium.

£9 sterling = £100 sterling?
 £100 currency, } = £10 currency.
 plus prem. } = £115 currency.
 Ans. 100 sterling = £127, 15s. 7d. currency.

JAMAICA ON LONDON.

Exch. 15 per cent. Premium.

£5 sterling = £100 sterling?
 £100 currency, } = £7 currency.
 plus prem. } = £115 currency.
 Ans. £100 sterling = £161 currency.

INDIRECT EXCHANGES, OR ARBITRATIONS OF EXCHANGE.

Arbitration of Exchange is the operation of finding a proportional rate between two places, through any intermediate place or places, in order to ascertain the most advantageous method of drawing or remitting. When there is only one intermediate place, it is said to be a *Simple Arbitration*; when more than one, a *Compound Arbitration*.

In practice the comparison is made with a variety of arbitrated rates, in order to find whether any indirect paper affords a better rate than direct paper,—allowance being made for the difference of interest or discount between the direct and indirect bills, and the additional charges attending the latter, as brokerage, stamps, and commission. The commission to an agent varies from about ½ to 1 per cent. according to agreement; but the small rate of profit yielded by exchange speculations leads to their being chiefly conducted on joint account, or between branches of the same establishment, so that the charge for commission is generally avoided.

LONDON AND PARIS, THROUGH HAMBURG.

Find the Arbitrated Rate between London and Paris, when the exchange of London on Hamburg is 13 marks 12 schillings Banco for £1; and that of Paris on Hamburg, 184 francs 50 centimes for 100 marks Banco.

£1 = 220 schillings Banco.
 16 schillings = 1 marc Banco.
 100 marcs Banco = 18450 cents.
 100 cents = 1 franc.
 Ans. 25 francs 37 cents.

LONDON AND AMSTERDAM, THROUGH MADRID.

Find the Arbitrated Rate between London and Amsterdam, when the exchange of London on Madrid is 37 pence for 1 dollar of plate; and that of Amsterdam on Madrid 100 florins 75 cents for 40 ducats of plate.

£1 = 240 pence.
 37 pence = 1 dollar plate.
 1 dollar plate = 272 maravedis.
 375 maravedis = 1 ducat.
 40 ducats = 10075 cents.
 100 cents = 1 florin.
 Ans. 11 florins 85 cents.

In the Simple Arbitrations now stated, although the exchange is said to be *through* a third place, yet it is commonly effected by the remittance of bills upon the intermediate place, to the place where the fund is to be created;—as, for example, by the purchase in London of bills upon Hamburg, and the remittance of such bills to Paris; this operation being less complicated, and attended with fewer charges than remitting direct paper to Hamburg, and either having the proceeds forwarded to Paris, or ordering the correspondent there to draw for them upon Hamburg.

Compound Arbitrations are of rare occurrence, as the liability to unfavourable changes becomes greatly increased when more than three places are concerned in the operation; besides, few houses of business are capable of so far extending their negotiations.

ARBITRATIONS OF BULLION.

Arbitration of Bullion is the operation of deducing a rate of exchange from the prices of bullion in two places, in order to determine, by comparison with the rate borne by bills, whether the precious metals can be exported or imported to advantage. The data required, besides the prices, are the weight and fineness of the bullion;—the modes of expressing which, in this and other countries, are explained under MEASURES AND WEIGHTS, and the heads of those countries respectively.

In the following equations the variable terms are distinguished by an asterisk; the others, being invariable, are in each case compounded into a fixed number which may be used in all similar arbitrations. The result of the equation for New York is shown, both according to the new and the old methods of quoting the exchange.

LONDON AND NEW YORK.

Bar gold in London is 77s. 9d. per ounce standard; required the arbitrated rate of exchange produced by its export to the United States, for coinage at the rate of 232½ grains of fine gold for the eagle of \$10.

£1 sterling = 20 shillings.
 *77½ shillings = 440 grains stand.
 12 grains stand. = 11 grains fine.
 232½ grains fine = \$10.
 77½)378·984 Fixed No.
 Ans. \$4·87,43 per £1 sterling.
 900
 40)4388·87,00
 109½ per £100 ster.
 or 9½ per cent. Premium.

LONDON AND AMSTERDAM.

Bar silver in London is 60 pence per oz. standard; in Amsterdam 104½ florins per pond fine; required the arbitrated rate of exchange; the Netherlands pond being equal 1000 wigties, and 31·1002 wigties equal 1 troy ounce.

£1 sterling = 240 pence.
 *60 pence = 1 oz. standard.
 40 oz. standard = 37 oz. fine.
 1 oz. = 31·1002 wigties.
 1000 wigties = *104½ florins.
 60)6·90424 Fixed No.
 Multiplied by 104½
 Ans. Florins 1202 cents.

rates thus found, however, will fall to be corrected for interest and charges, compared with the prices of bills.

EXCHEQUER, a court established in England by William the Conqueror, and which was one of the first in importance, as all causes relating to the crown were there discussed, and the royal revenues were supposed to arise. As now modified, it consists of two divisions, one of which presides in matters of public revenue, while the other is subdivided into common law and a court of equity. The judges are, the Chancellor for the time being, the Chief Baron, and four other Barons. The Chancellor has a voice in giving judgment when the court sits in equity, but rarely or never exercised, his leading duties at present being those of finance, of which he is minister. In this last capacity he is always a member of the cabinet.

EXCHEQUER BILLS are promissory-notes issued by the Treasury under the authority of Parliament; and are the form in which the floating or unfunded part of the national debt chiefly exists. The issue of these bills greatly facilitates the financial business of the government. They are circulated at present for amounts from £100 to £1000, which are printed with ink of different colours; £100 bills with red; £200, yellow; £500, blue; and £1000 bills with black ink. They bear interest from their date until the day fixed for their payment, which is generally about a year after being issued, and may either be discharged or renewed for other bills, at the option of the holder. Those neglecting to present their bills on the day appointed are deprived of the next opportunity of obtaining new bills, or else must submit to whatever premium they may chance to bear at the time. During the life of these bills, they may, after a limited time, be paid to the government free of duties and taxes; they are thus nearly exempt from the risk of loss, and, as they are transferable without the necessity of a formal assignment, form an eligible investment for capital that may require to be suddenly converted into cash. They are so much in demand by capitalists in the metropolis, that they are enabled to keep a considerable amount of them, generally about £100,000 in circulation, at a low rate of interest. The rate is fixed at so much per diem, and is commonly adjusted so that the bills shall bear a premium in the market, in order that government may not be exposed to the inconvenience of having them returned in payment of taxes. Sometimes the small bills bear a higher premium than the large ones. Of late years the rate has fluctuated between 2½d. per cent. per diem, that is, from £2, 5s. 7½d. to £3, 16s. 0½d. per diem.

The charge upon either a purchase or a sale is 1s. per cent.

Transactions through the medium of Exchequer bills generally involve a calculation of interest. Thus, the cost of an Exchequer bill for £500, dated January 5, and sold April 6, at 60s. 6d. is as follows:

	£500	Bill.
10 at 2d. per cent. is 10d. : and 10d. × 91 days	= 3 15 10	Interest
60s. × 5	= 15 0 0	Premium
	0 5 0	Brokerage

£519 0 10 Whole cost.

Excise duties are issued at the Exchequer Bill Office, Palace-Yard, Westminster.

EXCISE, a term applied in this country to the duties levied on articles of home production. Such duties were unknown in England before the reign of Henry VIII. when they were imposed by the Long Parliament upon beer, ale, cider, and other commodities. This kind of taxation long continued unpopular. Hence the excise was called "a hateful tax;" and Blackstone states, that, "from the reign of Henry VIII. to the present time (1765), its very name has been odious to the land." These opinions may have partly arisen from the harsh and oppressive manner in which the duties were sometimes levied; but there will be no reason to nourish against even beneficial innovations. Few persons, however, would be so foolish as to call in question the advantage of contributing towards the expenses of the country by means of an indirect tax, though this is an article which may be purchased at too dear a rate, if great care be not taken in the framing of statutes which give such large powers as the excise laws.

The excise was at first only intended to be resorted to as a temporary source of revenue. Like many other taxes, it was retained when the emergency in which it was introduced had passed away. In 1649, the Parliament declared that "the impost

in excisable commodities, under penalty of his office, and incapacity to fill or connected with the excise. Any officer with the excise who asks or takes a bribe, directly or indirectly, or enters into an agreement, to conceal or connive at any infringement of the excise laws, or to omit performing his duty, is liable to a penalty of £500, and to be rendered incapable of serving in any government. The same pecuniary penalty is incurred by any individual who may corrupt or attempt to corrupt an officer to such breach of duty. When any such punishable transaction takes place between a private party and an officer connected with the excise, either party giving information which leads to the conviction of the other is indemnified. Where officers would be liable to penalties or forfeitures, if they are proved to have acted collusively, as above, or otherwise, they lose their portion.

of Premises, &c.—Every person obliged by the excise act to make entry of his premises, does so by giving an account, according to the terms of the particular excise act, to the surveyor of the survey, to be entered in the entry-book; the penalty for omission is £100. A person employing entered premises, for purposes other than those for which they are entered, forfeits £100. No second entry can be made of any one but a partner; but if one vacates his premises without withdrawing his entry, the commissioners may con- sider him as having withdrawn, and permit a new one. The entry must be made by a person who has attained the age of twenty-one, and by the real owner; or by a person who makes it, or uses the premises, is liable. Entry by a joint-stock company or partnership must be made by the managers, or by one of them if they exceed that number. Every building, place, or utensil, must be dis- tinguished by a number painted on a conspicuous place, and the proprietor must paint all fixed fixtures, and describe their direction and purpose in the entry-book of the surveyor, under penalty of £100.

A book called "a specimen" may be kept in any entered premises, for recording the names of the officers who survey the pre- mises, and any person other than an officer of the excise, creating, carrying away, destroying, or altering in, this book, is liable to a penalty of £100.

—Persons carrying on business subject to the regulations delaying to pay the duties demanded forfeit double the value of the goods. The collector, on affidavit, may grant a respite for levying unpaid duties, in the same manner as penalties are levied, reporting to the commissioners, who may stay the proceedings or not.

Officers of excise are entitled to enter on pre- mises for any business subject to excise re- gulations, and to take account of and charge any goods they may find chargeable, at any time, by day or night; but if the entrance is to be made between eleven at night and five in the morning, it must be by request, and in pre- sence of a constable, unless a different rule be prescribed by any excise act applicable to any particular commodity. All excisable com- modities and utensils used in their preparation, are liable for the duties, and arrears of duties, and penalties and forfeitures, incurred by any person who uses them, though they have been in the hands of others; but by the last excise act, effects which have been taken account of and charged with duty, are not liable, in the hands of a bona fide purchaser.

Warrant.—Any person connected with the carrying of excisable commodities in un- lawful premises is liable in a penalty of £30, above the penalties which may be levied

on the proprietor by the act applicable to the particular manufacture; and any officer may, either at the time of discovery or after- wards, bring a person discovered in the act before a justice of peace, by whom he may be summarily amerced in the penalty, or, on fail- ure, be imprisoned, with hard labour, for three months. On a second offence, the penalty and imprisonment are doubled. The commissioners alone have the power of modifying the punish- ment. All excisable commodities and imple- ments concealed with intent to defraud the revenue are forfeited, along with the vessels for containing them, and vehicles and cattle for re- moving them; and persons concerned forfeit treble the value, or £100, as the commissioners or the informer may decide.

Searching Premises, &c.—Within the limits of the chief office two commissioners, and, in the country, a justice of peace, on an excise officer making oath of suspicion of excisable articles concealed, may grant warrant to search the pre- mises, break down obstructions, and remove ex- cisable commodities, by day or night, but if be- tween eleven at night and five in the morning, only in presence of a constable. Justices of the peace, mayors, bailiffs, constables, and the pub- lic at large are required to assist. Any constable, or other ministerial officer of the peace, refusing to assist an excise officer, forfeits £20; the as- sistance may be continued by such ministerial officer beyond his jurisdiction. Similar powers to the above are conferred on officers of the cus- toms. Persons who obstruct officers or their assistants making seizures, or who attempt a rescue, or injure the commodities seized, forfeit £200. Officers and their assistants assaulted or resisted with offensive weapons, in attempting to make seizures, may oppose force to force; and if in doing so they occasion wounds or death, they may be admitted to bail.

Seized and Forfeited Goods.—Officers of cus- toms seizing excisable commodities, must give notice at the next excise office, or to the super- visor, or other officer of the district, who must take an account of the goods, after which they cannot be removed without a permit. Police officers seizing such commodities, must deposit them in the next excise office, unless when it is necessary to detain them for a time as produc- tions in any criminal trial; a penalty of £20 is incurred by neglect. Goods produced for the purpose of fraudulently obtaining a drawback, are forfeited, along with treble the value, or £100, as the commissioners or the informer may choose. Forfeited goods are publicly sold to the best bidder. No such goods can be sold for home consumption at a less price than the duty; and if such a sum is not offered, they must be sold for exportation, destroyed, or ap- plied to some public use. Goods condemned as being adulterated, or mixed with prohibited in- gredients, must be destroyed. Where no claim- ant appears for effects seized, notice is affixed to the excise office, specifying a day when they are to be adjudicated on. Within the limits of the chief office the notice must be fourteen days after the seizure; and in the country it must be on the next market-day after expiration of six days, and must specify a day and place for the consideration of the case, the day being eight days after the notice. The decision of the commissioners or jus- tices may then be given in absence, as if the par- ties had appeared. By the last act, effects under £15 in value may be treated as condemned after their being a month unclaimed. Where cattle or goods of a perishable nature are seized, they may be re-delivered to the owner on his giving secur- ity; and if the owner do not appear and offer se- curity, any such property may, after the lapse of fourteen days, be sold by auction, without being

condemned, the officer having the choice of receiving the proceeds of the appraised value, if the final amount is not less than, and a further sum of £100,000 for the use of the nation by the receipt of the duties of the commodities.

Excise Laws.—No article of any description can be made or any property forfeited, or condemned, or seized by virtue of the enactments of the House of Commons, or the law of the crown, without having been first convicted upon evidence taken in open court. Actions for penalties and forfeitures provided before the year 1700 by commissioners within the circle of the district, there to be no more justice of peace in the country. It is that no must be prosecuted within a year after the offence or seizure, or the bringing of the goods within the work after the exhibiting of the information. The justice receives for days waiting to attend, by statute, exists in the case of prosecution for duties, the value of duties neglected to be paid, when twelve months waiting is sufficient. The justice of peace, to the number of two or three, are appointed to meet every three months, or oftener if there be occasion, to hear excise prosecutions. No officer of excise can act as a justice, nor can any person carrying on a business subject to excise regulations act in any case relating to that class of business. Convictions contrary to their office regulations are null. A witness summoned to appear, and having his expenses returned, is liable to forfeit £5, if he does not appear, or if he refuse to give evidence. Officers of excise and informers are competent witnesses, notwithstanding their right to receive a portion of the penalty or forfeiture, on conviction. In all prosecutions, whether at the instance of the excise, or against any officer of excise, the proof that a duty has been paid, or that they are not of a kind for which duty is exigible, lies on the proprietor or person claiming them. The justices may mitigate penalties down to one fourth part at their discretion; but this does not extend to prosecutions for double the value of duties neglected to be paid. It is to be observed that the separate statutes applicable to the different excisable commodities, impose their respective penalties; and where, by any such act, a penalty is imposed, and, in default of immediate payment, imprisonment for a limited period, the justices cannot mitigate except where they are

specially empowered to do so by the text of the act. The commissioners of excise may or entirely remit penalties. An appeal from the decisions of justices to the next quarter sessions. Where any judgment is for the seizure of property, it is made effectual until for sale; and where it is for a penalty, it is to be levied on the goods of the party by sale, not less than four or five days from the date of the warrant return, that sufficient effects have not been found, a warrant is granted to imprison. The officers of the crown may stop prosecution, commissioners may forbear from prosecuting seizures, or compromise proceedings. The Treasury may restore seizures after condemnation, and remit penalty or after judgment. The commission is a sum not exceeding eightpence for each prisoner. All questions as to duties, penalties, forfeitures, seizures, &c. exclusively to the jurisdiction of the Exchequer, with the exception of the which, as above, are decided by commissioners or justices. All prosecutions in the Court of Exchequer must be commenced within three months after the cause of action. In cases where justices are empowered to decide, no one can bring the proceedings before any court, but the crown may bring any proceedings before the Court of Exchequer by *certiorari*.

Actions against Officers, &c.—When an action is to be brought against any officer or person acting under the excise laws, a notice in writing must be given, and it must be sued within three months after the time the cause of action arose. If the proceedings are successful, treble costs are awarded against the officer. Any officer or other person who neglects or refuses to appear, or who tender of action, may tender amends within three days; and if they be rejected, they may be liable to action, and on being deemed sufficient verdict will be found for the defendant, with costs as above. In the case of a seizure, if the decision is given for the claimant, the person who made the seizure is not liable to prosecute the judge report that there was a probable cause for seizure; and in the case of a verdict against the officer for any such seizure, if the judge makes a similar report, the prosecutor becomes liable to only 2d. of damages, and to no costs.

EXPECTATION OF LIFE, a phrase improperly applied by writers on Insurance to the average of forthcoming years in the life of an individual explained in the article INTEREST AND ANNUITIES, it is different from the probable life.

EXPORTATION. [CUSTOMS REGULATIONS.]

EXTENT, WRIT OF, is a process employed at the instance of the creditor attaching the body, goods, or lands of a debtor. Extent is either in chancery or in aid. The former issues against the crown's debtor, the latter against the debtor of the crown's debtor. It is a rule that an extent can only be founded on a debt of record, and so if it be required on a simple contract, and without a commission is issued out of the Court of Exchequer, on affidavit of the two commissioners who are authorized to inquire, with the assistance of the clerk, whether the defendant be indebted to the crown in any and what sum, return the result of the inquiry to the court. No notice is given to the debtor of the inquiry. Where the debt is on bond, the writ may issue on the return of the bond, accompanied by an affidavit. The affidavit on which an extent is obtained, termed the affidavit of danger, must state the debt, the time in which it arose, and the circumstances connected with the debtor's situation, owing to which it is in danger of being lost. The fiat, which is the warrant for issuing the extent, may be obtained at any time from the Chancellor or a Baron of the Exchequer. The writ is tested by the Chief Baron (in Scotland by the judge of the Court of Session who acts as the judge of Exchequer), signed by the Queen's Remembrancer, and sealed with the Exchequer seal. This is

the *teste*, and the goods affected are bound from its date. The writ in England directs the Sheriff to enter on the defendant's property, take his person, and inquire by jury what lands and tenements, and of what yearly values, he had at the time when he became debtor to the crown, or at any time since (or if it be on a simple contract debt, what he now hath), and what goods or chattels, debts, credits, or other assets, he, or any person in trust for him or to his use has, and to appraise, extend, and seize all such property. It is a peculiarity in Scotland (the Exchequer law of which is in other respects derived from that of England), that real property cannot be affected by a writ of extent. In England, a jury is impannelled to inquire into the funds, and all having an interest may appear. The effect of the writ on third parties is, that the property of the debtor is bound by it from the date of the *teste*, into whatever hands, or for whatever consideration it may pass. All the debtor's property may be taken under the extent, except what is necessary for himself and his family, and excluding beasts of the plough if there be other chattels sufficient. Goods *bona fide* sold, or assigned for the benefit of creditors before the *teste* (though the latter turn out to be an act of bankruptcy), cannot be affected, nor can goods pawned, or on which a factor has been entitled to a lien, before that event. By the English bankrupt laws, the crown's extent is defeated by the choice of assignees, the estate immediately vesting in them. In sequestrations in Scotland, the vesting takes place from the date of the act and warrant in favour of the trustee. Where an extent in chief has been obtained, and debts found due to the crown's debtor, an extent in chief of the second degree may be issued, and against *that* debtor's debtor an extent in chief of the third degree, and so on. An extent in aid is issued for the benefit of a crown debtor, who is himself liable to an extent in chief. By 57 Geo. III. c. 117, §§ 4, 5, such extents are prohibited from being granted for simple contract debts, or to persons who become the crown's debtors by bond in the course of their trade, or as sub-distributors of stamps, or to sureties for crown debts, unless a demand be made from them. Extent in aid may be issued to the third degree. (*West on Extents. Tidd's Practice of King's Bench, &c.* 1042-1083.)

F.

FACTOR, a commercial agent residing at a distance from his principal, and having the superintendence of some branch of his employer's trade in the place where he acts. A factor differs from an ordinary agent in this, that he does not represent his principal, but acts as a principal himself in his transactions with third parties. He is distinguished from a broker, in as far as he has the personal possession and management of the goods over which his superintendence extends. The factor carries on his commercial operations on commission. He receives consignments from his principal, and makes sales and remittances in return, balancing accounts from time to time. He may act without disclosing the name of his principal. He frequently holds a Del Credere commission [DEL CREDERE]. Like other mandatories, the factor is personally responsible for whatever he may do exceeding the powers delegated to him, and where they are not expressed in the terms of his commission, his powers will be limited by the custom of the trade. He is not responsible "at all events" (as it is termed) for the safety of goods within his charge, that is to say, he is not liable for them as if he had insured them against all risks; but he ought to bestow on them the same care as on his own property, and it would appear that he will be amenable to his employer if he do not. He is not in the general case responsible for the consequences of fire, robbery, or other accident, but there are precautions which, in certain circumstances, he must adopt. One of the most important is that of protecting his principal's interest by insurance, and if he have effects in hand, he is in all cases bound to comply with directions to insure, being, on failure, himself considered responsible. Where goods are consigned to a factor, his title to them, and right to dispose of them, is generally conveyed in an indorsed bill of lading, but in questions with parties privy to the transaction, it is held that a letter of advice is sufficient. Where the factor has absolute power to sell, indorsement of a bill of lading while the goods are at sea will pass them absolutely, and bar the principal's right to stop in transitu, "and in the absence of fraud, it seems that the assignee's knowledge of the factor's character would not affect his title; for, in order to make notice material, it must be notice of something inconsistent with the right of the assigner to do the act under which the assignee

§ 1. Any person intrusted with goods for the purpose of consignment or sale, who ships them in his own name, and any person in whose name goods are shipped, is deemed the true owner, so far as to entitle the consignee to a lien in respect of any money or negotiable security advanced for the use of the person in whose name "such goods, wares, or merchandise shall be shipped, or in respect of any money or negotiable security, or securities received by him, to the use of such consignee, in the like manner, and to all intents and purposes as if such person were the true owner of such goods." Provided that at no time the advance of the consignee shall not have been repaid by the bill of lading that the person in whose name the goods are shipped is not the actual owner. There is a presumption that the person in whose name goods are so shipped has been entrusted with them for the purpose of consignment or sale. The burden of proving the contrary lies on the person disputing the presumption.

§ 2. A bill of lading, or a bill of lading, warehouse receipt, warehouse certificate, or other document, which purports to be the true owner of the goods, entitles the holder to a lien in respect of any money or negotiable security advanced for the use of the goods, provided that the holder is not a party to the fraud.

§ 3. If a bill of lading, or other document, is taken as a security for a loan, and is taken by the person in whose name the goods are shipped, or by a person taking the goods as a security for a loan, it shall be deemed to be a security for a loan, and the person taking the goods as a security for a loan shall be deemed to be a party to the fraud.

§ 4. If a person contracts with another person, who is entrusted with goods, and the person entrusted with goods is not a party to the fraud, the person entrusted with goods is not liable for the fraud.

§ 5. The allowance or percentage given to factors by the principal is not a debt, but it is fixed by mutual agreement or the custom of the trade.

§ 6. The law of bankruptcy in Scotland, is the power of the sheriff to elect a trustee for the bankrupt estate till a trustee be chosen. He is elected by the creditors at a meeting held on a day specified in the writ. The meeting must be held not less than eight or more than fourteen days from the date of the writ. The sheriff decides as to the election in case of dispute. When the trustee is elected, his duties devolve on the sheriff-clerk. The trustee must, within a specified time, present his accounts and vouchers, and render an account of the estate.

consigned to them, the contract binds on the owner, though the purchaser that he has contracted with an agent, provided such contract and payment be usual and ordinary course of business, and the party have not notice on entering the contract, or making payment, that the agent is not authorized to sell the goods or receive the money.

§ 5. Persons may take goods, or the delivery of goods, in pledge, though without notice that the persons from whom they are taken are but factors or agents, but no right can be acquired in such case "than was possessed, or could or might have been enforced by the said factor or agent at the time of such deposit or pledge."

§ 6. Provision is made for enabling a principal to recover his property from a factor before sale or deposit, or from the administrator of the estate on his factor's bankruptcy, to obtain the money from the purchaser of the goods, subject to the right of set-off by the purchaser and factor; and to recover the money from the pledgee on satisfying the claims of the principal respecting it.

§ 7. Factors or agents pledging goods to a third party, and applying the money for their own use, "in violation of good faith," with intent to defraud the owner of such goods, become liable to the owner for the value of the goods, not exceeding fourteen years.

§ 8. The deposit or pledge of goods for no greater sum than is covered by the value of the goods is not considered fraud; the act, however, drawn by or on account of the principal, is not a debt by the principal, but a pledge in those circumstances unless paid when it becomes due.

have led to the development of the cotton manufacture; and it is in which that manufacture is carried on that the system has been brought to the state of perfection. The last general return respecting the number of factories, and the people employed in them, was made in the year 1835, when the number of factories in the United Kingdom was 3,236, of which there were employed in the manufacture of cotton, 1,304; wool, 1,322; silk, 263; flax, 347. The number of the persons working in these factories were as follows:—Between 8 and 12 years, males, 10,087; females, 10,501; total, 20,588: Between 12 and 13 years, males, 687; females, 18,180; total, 35,867: Between 13 and 18 years, males, 64,726; total, 108,208: Above 18 years, males, 87,299; females, 190,710: Total males, 158,555; total females, 196,818: In all, of which there were employed in cotton factories 220,134; in woollen factories 74; in silk factories, 30,682; and in flax factories, 33,283. The proportion of males employed in factories is shown to be much greater in Scotland than in the other parts of the United Kingdom.

large proportion of the hands employed in those establishments, it will be
ists of children and young persons. There having been reason to believe
any cases, they were tasked beyond their strength, an investigation of the
in this respect was made in 1832 by a parliamentary committee, and
tly by a royal commission. The examinations which then took place
at, although the abuses alleged to exist had been greatly exaggerated,
maintained to render legislation expedient; and in consequence an act was
1833 (3 & 4 Wm. IV. c. 103), the chief provisions of which are the fol-

erson under 18 years of age shall be al-
k between 8½ o'clock P.M. and 5½ A.M.,
reafter, in any cotton, woollen, wor-
flax, tow, linen, or silk mill or fac-
tching, carding, roving, spinning,
ad, dressing or weaving of cotton,
ad, hemp, flax, tow, or silk, either
mixed, in any such mill, in any part
. But the act not to extend to the
pling, or boiling of woollens, nor to
employed therein, nor to the labour
mens above the age of 13 years, when
packing in any place attached to a
ot used for any manufacturing pro-
any mill used solely for the manu-
ce.

Person under 18 shall be employed
8 hours in one day, nor more than
one week.

shall be allowed, in the course of not less than 1 1/2 hour for meals to be restricted to the performance of 12

child, except in silk mills, shall be
be shall not be nine years old.

child, except in silk mills, shall be more than 48 hours in any one week,

RE, a common term for bankruptcy.

from the Latin *feria*, a holiday), a greater kind of market, held at a time and place, to which people resort from different and sometimes distant parts, for the purpose of traffic. Anciently, commodities of every kind were chiefly sold there; but in modern times the increase of towns, and the improvement in the means of communication, have tended greatly to diminish their importance; and now they are mostly confined to the sale of agricultural produce.

PRINCIPAL ENGLISH FAIRS.*

January.
on Mowbray, horses and cattle.

February.
y, horses, cattle.

March.
(10 days) miscellaneous.
de la Zouch, horses, cows, sheep.

7. Higham Ferrars, horses, cattle.

25. Woodbridge, Suffolk, horses.

29. Durham, cattle, sheep, horses.

April.

5. Gloucester, cheese.

8. Pontefract, sheep, cattle.

8, 9, 10. Barnet, horses and Scotch cattle.

tes of the English fairs are filled up as they occurred in the year 1840; but in other
rill sometimes be different, as they are not unfrequently regulated by saints' days, or
ays of the week. When the date falls on a Sunday, they are generally held on the day

FALKLAND ISLANDS, or *Malvinas*, an insular group in the Southern Ocean, about 300 miles N. E. of Cape Horn, between lat. 51° and $52^{\circ} 45'$ S. and long. $57^{\circ} 20'$ and $61^{\circ} 46'$ W. It consists of two large islands, East and West Falkland, and about 90 islets. The two former contain nearly 13,000 square miles. These islands were discovered by Davis in 1592; and small settlements, at different times made on them by the English, French, and Spaniards, were successively abandoned. But as, since the increase of the southern whale fishery, and the opening of the South American trade, they have again attracted attention, formal possession was, in 1833, taken of them by the British government.

East Falkland, or Soledad, contains the small British settlement of Port Louis, which is situated on Berkeley Sound, at the north-east point. There is sufficient depth of water for vessels of any size in Berkeley Sound, with good shelter and anchorage. The principal production of the island is cattle.

West Falkland, the larger of the two islands, is at present uninhabited. The part chiefly frequented is Port Egmont on the northern coast.

These islands are surrounded with good harbours, and the waters abound with fish, particularly a species of mullet, which is salted for the use of the shipping. There are also numerous seals and sea-elephants. The skins of the former are very valuable, and the procuring of them forms the chief inducement for vessels to resort to the islands.

FANEGA, a Spanish corn measure equivalent to $1\frac{1}{8}$ Imp. bushel.

FANEGADA, a Spanish measure for corn land, equivalent to about 1 Imp. acre 10½ poles.

FATHOM, a measure of length in many countries, equal 6 feet. It is said to have been derived from the height of a well-proportioned man.

FAUX, a Swiss land-measure, equivalent to 7855 English sq. yards, or 65½ French ares; $6\frac{1}{2}$ faux = 10 Imp. acres.

FEATHERS for ornamental dress are obtained from the ostrich and a variety of other birds, the chief of which are described under their proper heads.

Bed-feathers are procured in many parts of Britain from common poultry, and large quantities are annually brought from Limerick and other ports of Ireland. Considerable imports both of feathers and down likewise take place from the countries adjoining the Baltic and other parts. The most esteemed for beds are those of the goose, and they are best when plucked from the living animal, which is done thrice a-year, in the spring, at midsummer, and the beginning of harvest.

FEE-SIMPLE, a term sometimes applied to the value of a perpetual annuity; and more frequently to an English tenure of land, in which seizure is granted to a party and his heirs for ever.

FERNANDO PO, a mountainous island lying in the Bight of Biafra, 20 miles from the African coast. It is about 120 miles in circumference, and is fertile and beautiful. It was occupied by Great Britain as a naval and military station in 1827, from its supposed salubrity, and the facilities afforded by its situation for the suppression of the slave trade; but the climate having been found to be as pestiferous as that of the other settlements on the adjoining part of the African shore, the troops were withdrawn in 1834. The principal settlement was Clarence Town, on the N. side, in lat. $3^{\circ} 53'$ N., and long. $7^{\circ} 40'$ E.

FERRET, a cotton ware resembling tape, but much stouter, chiefly used in binding or making up articles of dress. It is also made of silk; and this last is sometimes called Italian ferret.

F I A T, in the English law of bankruptcy, is the act of court by which the petitioning creditor is authorized to prosecute his complaint against the bankrupt. By 1 & 2 Wm. IV. c. 56, § 12, it was substituted for the commission of bankruptcy, formerly in use. It is issued by the Lord Chancellor, the Master of the Rolls, the Vice Chancellor, or a Master in Chancery specially authorized by the Chancellor. [BANKRUPTCY.]

F I G S (Arab. *Ten*. Fr. *Figues*. Ger. *Feigen*. It. *Fichi*. Por. *Figos*. Sp. *Higos*), the fruit of a small tree (*Ficus Carica*), indigenous to the temperate parts of Asia, and now cultivated in the fertile islands of the Mediterranean, in Spain, Italy, Greece, and France. It is also grown with some success in the southern parts of England, but seldom in Scotland, except under glass. The fig consists of a pulp containing a number of seed-like pericarps enclosed in a rind; and is of a dark purple or brownish colour, with a sweet taste. When ripe they are generally dried in ovens to preserve them, and then packed very closely in the small chests and baskets in which we import them. The tree produces a double, and in some climates, as in Syria and Barbary, a triple crop; whence the great value attached to it in Eastern countries, where it bears fruit through a considerable portion of the year. The first ripe figs come to maturity about the end of June; the second crop or summer fig is that which is dried; the third often hangs and ripens upon the tree after the leaves are shed.

FIRLOT, an old Scottish corn-measure equivalent to one-fourth of the BOLL.

FIRM, the title under which the business of a mercantile company is carried on.

FISH, FISHERIES. The term fishery is applied to those places where fish are caught in such abundance as to constitute an important article in commerce. Great Britain possesses a coast-line of above 3000 miles in extent, while that of Ireland is above 1000 miles; and the greater part of the shores of both islands abound with those species of fish which exist in the largest number, and yield a supply of food the most acceptable. A very considerable portion of our coast population are more or less engaged in fisheries; and the shores are indented with bays and harbours which facilitate their employment, and render it an important branch of national industry. The principal kinds of fish which are the object of systematic occupation in the British seas are the herring, cod, ling, hake, lobster, mackerel, oyster, pilchard, and salmon; but the quantity of other fish taken is in the aggregate exceedingly great; and the capture of whales in the Polar Seas is an employment in which a considerable though declining amount of British shipping is engaged, principally belonging to the north-eastern ports. The whole of these are described under their proper heads. The annual produce of the fisheries of the United Kingdom is variously estimated at from £4,000,000 to £8,000,000.

The statutory rules as to the importation of fish of British and foreign taking are embodied in §§ 2, 44, and 58 of the act 3 & 4 Wm. IV. c. 52, an abridgment of which will be found under the head **Customs REGULATIONS**. By 1 & 2 Vict. c. 113, § 7, prohibitions against importing cured fish to be warehoused, were repealed.

FISH-HOOKS (Fr. *Hameçons*. Ger. *Fishangeln*), well-known instruments made of the best, smooth, sound, steel-wire; those for salt-water fishing being frequently timed to prevent them wearing rapidly away in rust. In the United Kingdom they are manufactured chiefly at Redditch, in Worcestershire. Fish-hooks, besides being extensively used in this country, are largely exported.

FISH-MAWS, a term applied in Oriental commerce to a singular preparation of fish which is largely exported from the eastern islands to China. It is a favourite article of luxury with the inhabitants of that country, often bringing \$75 per pecul in the market of Canton.

FITCH, the fur of the pole-cat, is principally brought from Germany; it is soft and warm, but its offensive odour tends to depress its value.

FLAG, the ensign borne on the mast of a ship to designate the country to which it belongs: in the royal navy it is likewise made to denote the rank of the officer by whom the ship is commanded. The ensign to be worn on all British merchant vessels is ordained by proclamation, dated 1st January 1801, to be a red flag, having in the upper and inner corner, next the staff, the crosses of St George, St Andrew, and St Patrick, blended on a blue ground.

None of her Majesty's subjects are permitted to hoist in their vessels the union jack, or any pendants or colours usually worn in her Majesty's ships, and prohibited to be worn by proclamation of 1st January 1801, under a penalty not exceeding £500; and any officer of her Majesty's navy, or customs, or excise, may enter on board, and seize and take away such colours, which shall thereupon become forfeited. (4 Wm. IV. c. 13, § 11.)

FLANNEL (Fr. *Flannelle*. Ger. *Flanell*), a well-known, slight, loose, woollen stuff. In this country the finest kinds are made in Wales, principally in Montgomeryshire, and within a circle of about 20 miles round Welchpool. Flannels are also manufactured at Bury, in Lancashire; in Shropshire; and to a small extent in Wicklow, in Ireland. [WOOLLEN MANUFACTURE.]

FLAX (Du. *Vlasch*. Fr. *Lin*. Ger. *Flachs*. It. *Lino*. Por. *Linho*. Rus. *Len*, *Lon*. Sp. *Lino*), an annual plant (*Linum usitatissimum*), cultivated in this and other countries from time immemorial for its textile fibres, which are spun into thread, and woven into linen cloth. The stem is upright and slender, having leaves placed alternately on it of a grayish colour. When about 2½ or 3 feet in height, it divides itself into slender stalks, which are terminated by small blue indented flowers; and these produce large globular seed-vessels, divided within into ten cells, containing the bright slippery elongated seeds, well known in trade under the name of **LINSEED**. The plant will grow on almost any land; but though easy of culture, its quality depends very much on fitness of soil and situation. Rich alluvial land (as in Zealand, which produces the best Dutch flax) is deemed the most favourable situation for it. It impoverishes the soil, whence it is often sown on rank ground, and seldom two years successively on the same spot. The plant blossoms in June or July, and ripens its seeds in August or September. Two varieties are generally distinguished, *spring flax*, with short knotty stems, and *close flax*, with longer and smoother stems: the former is called by the Germans, who

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Tares, &c. at Dundee.

ax, generally in bobbins, but when
v 2 lbs. per mat.

, and Narva flax, always in mats;
per mat.

x, always in mats; tare 14 lbs. per

al, and Neustadt flax, always in
d therefore no tare.

lb of all kinds, tare 14 lbs. per mat,
d, and no tare when loose.

wed in Dundee.

ths, unless otherwise agreed.

e commercial allowances are gen-
e as in London.

LAND FLAX is the product of a different plant (*Phormium tenax*), the
high yield a very strong and beautiful fibre: it has been of late im-
considerable quantities from that island for the manufacture of cordage.
g the defect, however, of breaking easily when made into a knot, it has
a less useful than it was expected to be. Its cultivation has been
a the continent of Australia, but as yet with little success; also near
Toulon, and other places in France; and it has been introduced
l, the moist climate of which is considered to be favourable to its

Tares, &c. at London.

Petersburg flax; draft of 2 lbs. on every scale—
about 5 cwts. each when in mats. Can either
have them stripped or take the real weight of
mats. Tare 2½ lbs. per bobbin.

Narva flax, same as St Petersburg.

Riga flax, always in mats; draft on each mat
1 lb.: Tare, 20 lbs. per mat or mats 3 cwts. or
upwards; 14 lbs. when under 3 cwts.; 10 lbs.
on small.

Archangel and Pernau flax; draft and tare same
as Riga.

Credit, 9 months. Thus, if by agreement, 6
months' bill is granted, then a discount of 3
months is taken off; again, if a 4 months' bill
is granted, a discount of 5 months is taken off.

EED. [LINSKED.]

Fr. *Pierre à fusil*. Ger. *Feuerstein*), a mineral composed almost en-
ca. Few parts of the world are without it. It is used, when calcined
in pottery; also for gun-flints, for which purpose the yellowish gray
eferred.

ITINE, a silk stuff, chiefly used for men's waistcoats; it is made striped,
plain,—the last being a twilled fabric. Two other stuffs are known
ame; one composed of worsted, used for common waistcoats, women's
her articles; the other, made of cotton, resembling jean, and generally
sed for making trousers.

(Ger. *Gulden*), a name given to different silver coins, current in vari-
f the Continent, especially Germany and Holland. The imperial or
lorin, the integer of account, and principal coin in the Austrian empire,
nt 2s. 0½d. sterling; the Dutch florin or guilder is equal 1s. 8d. sterling;
o very nearly (1s. 7½d.) the value of the Rhenish florin (in 24½ *gulden*-
adopted as the integer of account by the States of Southern and West-
y; the Polish florin is equal 6d. nearly. The florin is also a German
orth about 6s. 1½d., which is chiefly current in the countries bordering

ILK (Fr. *Filoselle*, *Bourre de soie*), the name given to the portions of
broken off in the filature of the cocoons. It is carded like cotton or
un into a coarse soft yarn or thread for making shawls, socks, bands,
ticles, where an inferior kind of silk may be used.

M, JETSAM, and LIGAN, are barbarous appellations used to dis-
ds in circumstances at sea distinct from legal wreck, in order to con-
h they must be thrown on shore. Flotsam is such portion of a ship
s continues floating; jetsam is when goods cast into the sea there sink
; ligan is where, though sunk, they are tied to a buoy, in order that
e found again. All three belong to the crown, or its grantee, if no
ar to claim within a year after they are taken possession of by the
rwise entitled to them.

DER, one of the most common of the flat fish (*Platessa fesus*), is found
r coast, particularly near the mouths of large rivers, which it generally
; spawns in February or March.

non dab, a species of flounder (*Platessa limanda*) frequently caught
that fish and plaice, is considered superior to both. It spawns in
e, and is in best condition for the table in February, March, and April.

(Du. *Bloem*. Fr. *Fleur de farine*. Ger. *Feines mehl*, *Semmelmehl*.
Por. *Flor da farinha*. Sp. *Flor*), the finely ground meal of wheat.
ties are distinguished, called firsts, seconds, and thirds. [CORN.]

l of flour is 196 lbs. net.

RS (ARTIFICIAL), imitations of flowers and leaves, which form a common
e dress of ladies. They are extensively made in this country, but the

best are imported from France, where great improvements have been made in late years in the manufacture. The French adopt the finest cambric for petals, and the taffeta of Florence for the leaves ; while, by some artists, bone, in very thin leaves, is, after being bleached and dyed, employed for The imitations of nature made of these last are of remarkable beauty.

FLUOR SPAR, or native fluoride of calcium, sometimes called *Despar*, is a mineral found in great beauty and abundance in that county and places. It is procured in cubic crystals of various colours, and in the *Odin* detached masses, from an inch to more than a foot in thickness. This admits of being turned in the lathe into vases and other ornaments. Flu is also sometimes used as a flux for promoting the fusion of other minerals.

FOOT, a measure of length, varying in different countries from about 1 inches.

FORESTALLING, which seems to have originally signified an interrupting the highway, came to embrace all attempts to prevent victuals or merch from reaching a public market, or to enhance their price when they reach *Regrating*, an offence associated with it in the same statute (5 & 6 Edw. V is defined, " the buying of corn, or other dead victual, in any market, and it again in the same market, or within four miles of the place " (*Blackstone*, and *Engrossing*, another offence of a similar description, is said to consist getting into one's possession, or buying up, large quantities of corn or other victual, with intent to sell them again " (*Ib.*). The statute of Edward severe penalties on these offences, according to the number of convictions ; but enactments on the subject were repealed by 12 Geo. III. c. 71. It is established however, by the institutional writers, that they are offences at common law punishable with fine and imprisonment, though how far the criminal law would be extended to such cases, where there is no fraud, is very questionable. A case litigated was that of Waddington in 1800 (*East. i. 164*). The intemperance and impolicy of these antiquated interferences with the freedom of industry too obvious to require comment.

FORGERY may be defined as the construction of a document in such a manner as to make it pass for the writing of a person different from the one who prepares it, and thereby to occasion a fraud. It may be committed not only on a whole document, but as to part of one, *e. g.* by an alteration in the amount of a bill, whereby the person who has engaged for a certain sum is made to be bound for a larger. It is in its effect on the rights of the parties to negotiable instruments only that it is connected with the subject of this work. No man can be liable by his signature being forged by another, though one may in such circumstances create a liability by acknowledging the signature as his own. In the case, acceptance of a bill is an acknowledgment of the drawer's signature will make the acceptor fully liable to third parties. Acceptance is never held to be an acknowledgment of an indorser's signature (*Smith v. T. R. 654*). Whoever pays a forged bill (whether a drawee, or a banker's house it is made payable) is presumed also to have admitted or guaranteed the signatures of the parties, and will not recover his money, unless he find forgery immediately, before circumstances affecting the position of other parties have intervened, and send notice on the day on which he made payment to the person so paying will not have recourse on the party who appears, through forgery, as drawer of an unaccepted or acceptor of an accepted bill. A person who pays for honour is under like liabilities should the name of the person for whom paid for have been forged. " Whoever," says Mr Justice Bayley, " pay should be satisfied that it is, in all its parts, genuine ; if he be not, he will be at his peril, and will lose his remedy against the party on whose account it is " (322). In the case of vitiations and alterations, this distinction has been considered ; that where, through the carelessness of the original maker of the instrument, facilities have been left for alteration without detection (as where a word is left for adding a word to the sum and thereby increasing it), he will be responsible for what appears on the face of the paper. (*Bayley, 318-324. Chitty, 286, 2*

FOULARD, a kind of gauze riband made in France.

FRANC, the unit of the monetary systems of France and Belgium, is a coin, worth about 9½d. sterling ; the Italian *livre*, forming the integer of a *scudo* at Genoa and other places, is of precisely the same value. The Swiss franc, introduced during the existence of the Helvetic Confederation, is equal to about 1½ franc, or 1s. 2d. sterling.

The mutual conversion of French and British money is, for general purposes, readily

reckoning 25 francs = £1, or 100 francs = £4; an equation which furnishes us with the following rules:—

To convert Francs into Pounds.

-Cut off the last two figures, and multiply remainder by 4.

2600 francs how many pounds?

25,00
4

4

Ans. £100.

2. To convert Pounds into Francs.

RULE.—Divide by 4, and add two ciphers to the quotient.

Ex. In £100 how many francs?

4 | 100

Ans. 2500 francs.

FRANCE, a powerful kingdom advantageously situated in the W. part of Europe, latitude $42^{\circ} 20'$ and $51^{\circ} 5' N.$, and longitude $4^{\circ} 50' W.$ and $8^{\circ} 20' E.$ It is N.W. and N. by the English Channel and the N. Sea; N.E. by Belgium, Lux- and the Rhenish provinces of Prussia and Bavaria; E. by Baden, Switzer- d the Sardinian States; S. by the Mediterranean and Spain; and W. by of Biscay and the Atlantic. Including Corsica, it is divided into 86 de- la, designed from their geographical position; 363 arrondissements, named ir chief towns; 2834 cantons; and 37,187 communes or parishes. Area, 1,000,000 hectares, or about 204,000 British square miles. Population in 540,908, or 164 to the square mile. Capital, P'aris, an inland town situated ver Seine, and in the department of the same name, in lat. $48^{\circ} 50' N.$, and $20' E.$, about 210 miles in a direct line S.E. of London; population in 1836,

Government, a constitutional monarchy, hereditary in the male line, with
 peers,—a house of peers, the members of which are nominated by the king,
 number of deputies, of whom there are 459, chosen by as many electoral colleges,
 one. A deputy must be 30 years of age, and pay direct taxes to the amount
 of about £20; an elector must be 25 years of age, and pay direct taxes
 of annual amount of fr. 200, or £8: the total number of these last in 1838-1839
 598.

Character.—France generally exhibits a level, but not undiversified surface. The most are in the north. The elevated portions are chiefly in the eastern and southern portions of the two principal chains, one is connected with the Alps, the other, a branch from the consists of the Cevennes, a long range of mountains, which, traversing Languedoc, basin of the Garonne from the Mediterranean, and afterwards stretches northward in parallel with the Rhone and the Saône. In Auvergne a branch of this chain spreads region, which exhibits very striking indications of volcanic phenomena. In respect to the country has been divided into three regions: the Northern, the Central, and the

In the first, limited by a diagonal line from lat. 47° on the W. to 49° on the E., the soil a northerly course, and the temperature and produce bear a great resemblance to S. of England. The Central region, bounded southward by a diagonal line, from lat. W. to 47° on the E., comprises the country south of the Loire, and may be generally the basin of that river: this is esteemed the pleasantest part of France, the weather is clear and agreeable, while the vine flourishes, together with wheat and barley, oats

In the southern region the climate approaches to that of Italy; wheat gives place to vine forms a primary object of industry, especially in the valley of the Garonne; and the mulberry, and the orange flourish.

reduce.—The country generally is highly fertile. Extensive tracts of heath occur in Gascony, Anjou, Brittany, and Normandy, and poor districts in various other parts. The surface bears only a small proportion to the arable and pasture lands. Agriculture, commonly in a very backward condition. There are few large proprietors, or speculators, who have capital; the average size of farms is much less than in England, and there is a multitude of small occupations, by which a family is barely enabled to exist. The implements are besides few, and of an antiquated kind. The land is in consequence usually tined, and manured in an imperfect manner; and the produce of an acre of wheat on an average is at only 15 to 20 bushels; of barley, 20 to 25; and of oats, 25 to 30, or from one-third to one-half less than on similar lands in England and Scotland, where the climate

In the northern districts adjoining to Belgium, a better system prevails; the land in the neighbourhood of Paris is also well cultivated. In most other parts, except where maize is the old plan of two or three crops and a fallow is adopted; these last being usually ill & dirty. The extent of the arable land is at present estimated at nearly 57,000,000 (50,000 hectares); and, according to a recent statement, the produce in 1835 was as follows: Wheat, 72,000,000 hectolitres; oats, 49,000,000 hectolitres; rye, 33,000,000 hectolitres; barley, 100,000 hectolitres; maslin, or mixed corn, 12,000,000 hectolitres; buck-wheat, 5,000,000; maize and millet, 7,000,000 hectolitres; pease and beans, 3,500,000 hectolitres; other legumes, 4,000,000 hectolitres; total grain, 203,500,000 hectolitres. Potatoes, 72,000,000 hectolitres; turneps, 2,000,000 hectolitres.

lands occupy about one-seventh of the whole surface, but their produce is hardly sufficient for the consumption of a country where timber, besides being the chief combustible, is in great request for other purposes. The varieties of climate and position are favourable to the growth of all kinds of European and many exotic trees, including the cork-tree, which is cultivated in the south-west. The forests are principally on the highlands in the eastern part of France; the ancient province of Bretagne being, on the other hand, the most fertile for wood; but upon the whole it is pretty generally distributed. About one-seventh of the whole surface, consisting of 1473 different forests, belong to the state.

next to wheat, is the most important object of cultivation throughout the whole kingdom in the departments of the north and north-west; and the amount of land thus occupied at 2,134,822 hectares, or about 5,275,450 acres. The growers of wine are esti-

mated at nearly 2,000,000; the quantity annually produced at 40,000,000 hectolitres (880,000,000 gallons), worth about £22,000,000; while the duties imposed on its consumption amount to nearly £3,000,000. The departments in which the vineyards are chiefly situated are the Gironde, which yields about 2,500,000 hectolitres yearly, and furnishes the wine known in England under the name of claret; Charente-Inferieure, about 2,500,000 hectolitres; Herault, upwards of 2,000,000 hectolitres; Charente, 1,700,000 hectolitres; also Dordogne, Gers, Gard, Lot-et-Garonne, and Var; but those of Marne, Aube, and others, forming the ancient province of Champagne, as well as those of Côte d'Or, and Saône et Loire, comprised in Burgundy, though yielding a smaller quantity than many others, are distinguished for the superior quality of their wines. About one-sixth of the wine is converted into brandy; that used for exportation is chiefly made in the Bordelais, but the best is that of Charente, which furnishes the Cognac. [WINE. BRANDY.]

Beet is extensively grown for the sugar derived from its root; its culture is chiefly pursued in the departments of the N. and E., and part of the centre; the two arrondissements of Lille and Valenciennes, in the dep. du Nord, however, furnish one-third of the whole quantity made. This branch of industry has much increased of late years. Of the fruits, the mulberry, reared for the nourishment of the silk-worm, is one of the most important; it is chiefly grown in the S., particularly in the departments of Gard, Drôme, Vaucluse, and Ardèche; in 1835, the quantity of silk cocoons obtained amounted to 9,077,967 kilogrammes. Apples and pears are plentiful in the departments of the N. and N.W., where the culture of the vine ceases, and cider and perry are the ordinary beverages of the inhabitants. Chestnuts are so abundant in some of the central and southern departments that they supply a large portion of the food of the population of the rural districts. The olive, orange, lemon, and pistachio are produced on the shores of the Mediterranean, but are not equal to those of other countries; the best olive oil is that of the dep. Bouches-du-Rhône and of the neighbourhood of Aix.

The domesticated animals are, for the most part, similar to those of Great Britain. According to Berghaus, the live stock in 1840 amounted to 1,872,600 horses, 6,793,400 cattle, 39,000,000 sheep, 3,350,000 mules and asses, 4,500,000 hogs, and 900,000 goats. The horses are generally of inferior breed; but great pains is at present bestowed on their improvement. The rearing of cattle is pretty general, especially in the mountainous regions, where the ox is preferred to the horse for husbandry labour. The oxen of Gascony are the largest, and the navy is entirely provisioned from them; but Paris is mostly supplied from Anjou. The cheese of Dauphiny, Franche Compté, and the Ferez mountains is much esteemed. The best butter is made in the N., particularly in Brittany, Normandy, and the vicinity of Boulogne, from whence considerable quantities are exported. The sheep-wool, of which the annual produce is about 45,000,000 kilogrammes, is usually of a coarse description; only a small portion of the native breeds having been crossed with the Merino and other fine kinds. The goats are mostly in the Alpine and Pyrenean cliffs; in the latter of which the Tibet goat has been naturalized. The hogs are most abundant in the E. and N.E. departments, where they supply the means of a considerable provision trade.

The Mines are chiefly under the control of government, by whom the kingdom is divided into six departments, which are placed under an equal number of inspectors, who, with the Minister of the Public Works, compose the Council-General of Mines. In Paris there is a theoretical school, and at St Etienne one for practical men. Coal is worked in thirty-three departments, but the annual produce is only about 20,000,000 metrical quintals; the most productive districts are near Valenciennes in the N., and St Etienne in the S., but it is also dug in the departments of Saône et Loire, Aveyron, and Gard. Iron is produced annually to the extent of 18,000,000 metrical quintals. The quantity smelted has been much increased of late years, but the quality being inferior, it maintains its ground against that produced in other countries only by means of protecting duties. The principal iron-works are in the vicinity of Nevers, and the district of Forez, about St Etienne. Rock-salt and brine-springs exist in the department of Meurthe. The only other mineral products that need be noticed are,—silver, found in the department of Isère; copper, chiefly in the neighbourhood of Lyons; lead in the departments of Finistère, Isère, Lozère, and Vosges; besides which, manganese, antimony, clay for porcelain, bricks, and tiles, gypsum, chalk, and slate, are obtained in various places.

In Manufactures, France ranks next to Great Britain, and in the year 1839, the estimated value of the goods produced was, fr. 2,330,000,000 (£93,200,000). But in several branches, as afterwards noticed, the industry of the country has been misdirected by a vicious anti-commercial system of legislation. The principal manufactures are those of silk, woollen cloth, linen, cotton, iron and hardware, leather, and sugar.

The French silks are distinguished by superior taste and elegance, qualities for which they are unrivalled in any other part of Europe, or indeed of the world. The number of looms in 1839 was estimated at 85,000, employing 170,000 hands; and their annual produce at fr. 300,000,000 (£12,000,000). This truly national manufacture is principally carried on in the vicinity of the districts where the raw silk is produced. Its chief seat is Lyons; but it likewise exists on a considerable scale at Nîmes, Avignon, Annonay, Tours, and Paris, at which last it has recently received a great augmentation. Ribands are made at St Etienne, and St Chamond near Lyons.

The woollen manufacture, besides being of great importance, is also one of those that appear well adapted to the country; and of late years it has increased materially. The estimated value of the goods manufactured in 1839 was fr. 265,000,000 (£10,600,000). Its principal localities are as follow:—Broadcloths are made at Elbeuf, Louviers, and Vire, in Normandy; at Abbeville; at Sedan; and in the S. at Carcassonne, Lodève, and Castres: light fabrics, at Paris, Rheims, Amiens, and Beauvais: hosiery, at Paris, Troyes, Orléans, and at different places in Picardy; and in the S. at Nîmes, Lyons, and Marseilles: carpets, at Paris, Abbeville, Aubusson, and Felletin: shawls, including cashmeres, are made at Paris, Lyons, Nîmes, and St Quentin.

Linens of the finer kind are produced at St Quentin, Cambrai, Valenciennes, Douay, and other places in French Flanders; coarser linens and sailcloth, in Bretagne. The manufacture besides exists in Dauphiny. Lace is made at Alençon, Caen, and Bayeux, in Normandy; also at Valenciennes, Douay, and other places. The annual value of these different manufactures is estimated at fr. 260,000,000 (£10,400,000).

The cotton manufacture is carried on principally in the N. and E. departments. Its chief seat is Rouen, the Manchester of France; to which town it bears the further resemblance of being situated within nearly the same distance of Havre that Manchester is from Liverpool. This manufacture also exists on a very considerable scale at Paris, Troyes, and St Quentin. Printed

are made at Rouen and Beauvais; and at Colmar and Mülhausen, in the department of the Rhin. This manufacture, under the influence of high protecting duties, has increased more than any other since 1815, and it now nearly supplies the home demand. But beyond this it will not probably be much advanced; as, although the French excel in the brightness and brilliancy of their dyes, their machinery is more expensive and less improved than that of Britain, while their coal costs about double what that mineral can be procured for in Manchester and Glasgow. The estimated value of the cotton goods manufactured in 1839 was 60,000,000, or £9,000,000.

Wrought-iron goods are made at Grossure, Vienne, St Bonnet-le-Desert, and Vierzon; steel near St Etienne, Arc near Gray, Raveau, and La Doué near La Charité, Orléans, Foix, &c.; brass and zinc wares at Rouen and Paris; tinned-plate wares at Imphy, Pont St Ours, and Stataire; wire and nails at Laigle, Lods, Morvillars, and Romilly; tools at Amboise, Arc, Foy, and Klingenthal; firearms and other weapons, at Tulle, Paris, St Etienne, and Klingenthal; hardware, at Paris, Strasbourg, Châlons-sur-Marne, Thiers, Châtellerault, and &c.; the total annual produce of these different manufactures is estimated at fr. 215,000,000 (21,500,000*l.*). Bronze goods, chiefly at Paris. Those of copper, at Romilly, Imphy, Rouen, and Tours; and of lead, at Paris and Tours. Goods of tin, platina, mercury, and antimony, at Paris, at which city are likewise the principal sugar-refineries, and manufactories of soap, furniture, starch, lacquered goods, gold and silver lace, goldsmiths' wares and jewellery, musical instruments, and watches: watch-machinery, however, is chiefly made at St Nicholas d'Allermont, Besançon, and Montbéliard. Paper and paper-hangings are manufactured at Annonay, Sorel, Saussey, Paris, Vienne, and other places; leather, at Paris, Sens, Lonsjumeau, Grenoble, and Toulouse; porcelain, at Paris, Sèvres, &c.; and wedgewood and other earthenware, at Sarreguemines, Creil, and Montereau. Perfumery, in the southern department, is chiefly made in the north; a branch of industry, which, first introduced during Napoleon's anti-commercial system, has greatly increased of late years. The value of 1838 was estimated at 50,000,000 kilogrammes; but its existence is entirely dependent on the continuance of the present high duties on foreign and colonial sugar. Steam-engines are largely in use, and about two-thirds of them are of French manufacture.

Paris is the principal seat of the book-trade; but Lyons and Avignon are also important literary centres. This trade has increased greatly since 1815, though it suffers much from piratical practices in England and Switzerland, where most French works of merit are almost immediately reprinted. French booksellers are licensed, and obliged to conform to certain prescribed rules.

Fisheries on the coast are not of much importance; the principal are those of pilchards, off the coast of Brittany; of herrings, at Dieppe; of turbot, mackerel, &c. between Dunkirk and St Valery; of herring, at Cancale Bay and the mouths of the Seine; and of anchovies, on the Mediterranean coast, especially off the department Du Var. In 1838, the number of boats engaged in the coasting trade on the Atlantic was 4626; tonnage, 38,008; crews, 21,994: On the Mediterranean, boats, 5931; crews, 5213; total boats, 5886; tonnage, 43,939; crews, 27,207. The whaling trade on the Bank of Newfoundland, and at the French islands of Miquelon and Pierre, is prosecuted by vessels fitted out from Dunkirk, Marseilles, Granville, Bordeaux, and La Rochelle. The number employed in 1838 being 477; tonnage, 57,954; crews, 11,361; and the produce of 432,812 cwts. wet fish; 276,858 cwts. dry; 34,234 cwts. oil; and 17,560 cwts. sounds. In the same year, the whale-fishery employed 21 ships (chiefly from Havre), their aggregate tonnage being 690. The cod and whale fisheries are mainly supported by a system of bounties.

Trade and Means of Communication.—The difference between the climate and produce of the northern and southern divisions of the kingdom affords ample scope for exchange, and the foreign trade is in consequence somewhat considerable, having greatly increased since it was freed from the miserable system of provincial duties under which it laboured prior to the revolution.

The means of communication, however, will not bear comparison either with those of England or the United States. The roads are divided into royal, departmental, and communal, the expenses of which are respectively defrayed by the government and the departments or communes to which they belong. The first, in 1837, extended about 22,000 miles; they are commonly well constructed and repaired, as well as those of the departmental roads, which extend to 100,000 miles, being under the superintendence of a central board; but the communal roads, which are under no such control, are mostly in a very bad state. Few railroads have yet been laid down; the principal being those between Paris and St Germain, and from St Etienne to Lyons. But several have been made, and reported to the Chambers, of five different lines, with branches, which would be highly desirable should be undertaken. These lines are, 1st, From Paris to Rouen, Havre, &c., with branches to Pontoise and Beauvais. 2^d, From Paris to Lille, with branches to Arras, Calais, Boulogne, and Dunkirk. 3^d, From Paris to Strasbourg, with branches to Troyes, Reims, and Gray on the Saône. 4th, From Paris to Lyons and Marseilles, with branches to Melun and Gray. 5th, From Paris to Orléans, Tours, and Bordeaux, with branches to Poitiers, Nantes, Louviers, and Elbeuf. The extent of these projected lines is 1,000 English miles, and the estimated cost of their construction, fr. 908,000,000, or £36,320,000. The means of water-communications was estimated in 1837 at 7806 miles, of which about five-sevenths were contributed by means of navigable rivers, and two-sevenths by canals. Of the former, the principal are the Seine, the navigation of which commences at Troyes; the Vilaine, commencing at Rennes; the Loire, commencing at Roanne; the Dordogne, near Souillac; the Garonne, commencing at Toulouse; and the Rhone, which, though liable to interruption after it leaves the city of Lyons, recommences a little above Seyssel, on the frontier toward Savoy, and remains navigable the rest of its course. The principal existing canals are as follow:—The Great Canal of France, or *du Midi*, which joins the Garonne, at or near Toulouse, with the port of Cette, and connects the Atlantic with the Mediterranean. It was opened in the reign of Louis XIV., and is one of the most magnificent canals in the world. The canal of Charollais, or *du Bourgogne*, which connects the Loire, near the junction of the Arroux, with the Saône, at Chalon-sur-Saône. The canal of the Rhine and Rhone or *du Monsieur*, which connects these rivers by the Moselle, the Doubs and the Ill. The canal of Burgundy, which joins the Saône to the Rhone, and thus connects the Seine with the Rhone and Rhine. The canals of Briare and of Orléans, which unite the Loire with the Loing, a tributary of the Seine. The canal of Brittany, the

longest of all (1230 miles), which runs between Nantes and Brest. The total number complete in 1887 was 74, besides which, 18 were in process of construction, and 14 others were projected.

The *External Trade*, though considerable, is by no means commensurate with the natural productive powers of the country, its advantageous position, or the ingenuity and enterprise of the people. This is mainly to be ascribed to the system acted upon by successive governments of protecting native industry, and excluding foreign products, with the view of rendering France independent of other countries. This system was introduced in 1667 by M. Colbert, then minister of finance to Louis XIV.; and the prestige that has attached to his name has tended materially to prolong this regulating mania. Its depressing effects are now seen and acknowledged by the generality of the mercantile class, and even by the government; but the influence of both has hitherto been overpowered and superseded by a combination of the sinister interests which it has been the means of creating; and even since the return of peace in 1815, the ordinances of a pernicious system have been many and stringent, while those of a liberal character have been few and unimportant.

The principal articles of export are, wine, brandy and liqueurs, salt, raw silk, wax, hides, wool, olive, rape, linseed and other oil, tobacco, flax, iron and steel, and colonial produce re-exported; besides the following manufactured goods, namely, silks, woollens, linen and hampden cloth, cottons, hardware, perfumery and articles of fashion, hats, jewellery, and household furniture. The chief articles of import are,—of raw materials, silk, wool, hemp, flax, and cotton, of metals, iron and steel, lead, copper, tin, and baltum; of manufactured goods, hardware and linen yarn; of colonial, tobacco, sugar, and coffee; besides the following miscellaneous articles, raw hides, tallow, bones and horns, olive oil, hard woods for cabinet work, cheese, sulphur, and wax. The export and import of flax are nearly equal, of the cotton and tobacco imported, about one-half is re-exported, and of the sugar about one-seventh. The export of wax is about half the import; that of raw hides, one-fourth to one-third.

The foreign trade has increased greatly since the peace of 1815. During the continuance of war the commerce of the Atlantic ports was completely ruined, and that of the Mediterranean greatly harassed and interrupted by British cruisers, and the average annual amount of exports in the five years 1816, 1817, and 1818, was only £17,429,833; but in the course of the succeeding 30 years the amount was doubled, the average of the three years, 1838, 1837, and 1836, having been £34,479,000. The following tables show the nature, amount, and distribution of the foreign trade in the year 1858:—

STATEMENT of the Value of Merchandise imported into, and exported from France, dividing the Articles into certain Classes, and distinguishing the Trade by Sea and by Land, in the Year 1858.

DESCRIPTION.	IMPORTS.			EXPORTS.		
	By Sea.	By Land.	Total.	By Sea.	By Land.	Total.
ANIMAL PRODUCTIONS.	£	£	£	£	£	£
Live Animals	38,710	804,798	843,508	145,064	284,608	429,672
Animal Produce	3,223,738	8,041,844	11,265,582	2,794,673	289,116	3,083,789
Produce of Fisheries	878,395	25,848	904,243	138,108	18,482	156,590
Materials for Medicine and Perfumery	42,843	21,403	64,246	25,120	4,870	30,000
Hard Substances for Carving	118,886	4,394	123,280	18,731	219	18,950
VEGETABLE PRODUCTIONS.						
Farinaceous Food	719,680	134,802	854,482	824,543	88,771	913,314
Fruits	869,839	273,532	1,143,371	347,186	68,719	415,905
Colonial Produce	4,404,400	87,081	4,491,481	1,031,563	307,728	1,339,291
Vegetable Juices	1,449,610	39,390	1,489,000	657,945	123,044	780,989
Medicinal Substances	108,529	17,525	126,054	48,060	21,038	69,098
Common Wood (Timber)	828,530	807,400	1,635,930	163,468	102,460	265,928
Exotic Woods (Hard Woods)	230,361	3,629	233,990	37,813	6,480	44,293
Fruits, Stalks, and Filaments, for manufacturing purposes	4,737,311	121,544	4,858,855	398,708	718,289	1,116,997
Dyes and Tanning Stuffs	181,178	26,909	208,087	439,878	280,646	720,524
Other Produce and Waste	16,180	64,819	80,999	81,080	58,838	139,918
MINERAL PRODUCTIONS.						
Stones, Earths, and other Fossils	427,238	671,394	1,098,632	186,287	312,777	499,064
Metals	1,630,030	609,643	2,239,673	314,898	386,363	701,261
MANUFACTURED GOODS.						
Chemical Preparations	210,101	22,305	232,406	268,270	90,343	358,613
Prepared Dyes	1,896,438	24,103	1,920,541	874,617	145,838	1,020,455
Colours	13,076	16,012	29,088	37,657	40,478	78,135
Various Compositions	103,283	173,122	276,405	701,706	327,077	1,028,783
Liquors, of all kinds	46,839	8,640	55,479	2,035,819	282,863	2,318,682
Vitrifications	43,694	35,809	79,503	538,868	147,238	686,106
Threads	868,387	131,277	999,664	98,168	107,227	205,395
Woven Goods and Felt	1,840,229	2,918,337	4,758,566	11,906,944	4,880,429	16,787,373
Paper, and Fabrications of the same	42,705	30,025	72,730	307,530	210,800	518,330
Various Manufactures	904,447	917,173	1,821,620	3,466,803	1,381,320	4,848,123
Total.	25,188,653	12,313,686	37,502,339	27,791,184	10,448,187	38,239,371

TABLE showing the Amount of the Import and Export Trade of France with the different Countries of the World, in the Year 1838.

	Imports.	Exports.		Imports.	Exports.
<i>Europe.</i>	£	£	China.....	£48,149	£11,515
Belgium.....	1,898,819	839,828	Cochin-China, &c.....	63,761	33,258
Denmark.....	901,711	41,653	<i>America.</i>		
France.....	440,339	88,876	United States.....	5,311,897	6,837,981
Germany.....	33,144	79,856	Haiti.....	290,413	902,131
Italy.....	839,768	361,804	British Possessions.....	—	28,049
Netherlands.....	297,339	831,018	Spanish.....	450,676	602,918
Prussia.....	14,194	18,273	Danish.....	35,981	151,616
Russia.....	837,359	877,014	Dutch.....	8	836
Sweden.....	3,783,836	2,208,461	Brazil.....	379,425	918,295
Switzerland.....	3,797,701	6,608,145	Mexico.....	176,603	394,361
Turkey, Ancon, &c.....	61,080	90,113	Central America.....	106,090	13,194
Spain.....	1,418,592	3,633,093	Venezuela.....	51,361	70,306
Portugal.....	206,197	411,678	New Granada.....	19,784	17,419
United States.....	4,468,388	2,380,913	Peru.....	800	103,806
Spain.....	899,633	541,782	Bolivia.....	—	14,376
Italy.....	632,390	719,081	Chile.....	132,333	307,348
United States, Lucia.....	38,373	107,607	States of Rio de la Plata	286,310	201,118
Sweden.....	9,678,000	3,445,833	<i>French Colonies.</i>		
Germany.....	2,180,175	1,794,017	Guadaloupe.....	890,474	607,708
Denmark.....	18,713	94,367	Martinique.....	684,496	623,780
Italy.....	1,090,906	657,279	Rouillon.....	844,824	649,632
<i>Africa.</i>			Senegal.....	919,455	479,224
Portugal.....	137,832	151,088	Cayenne.....	109,300	136,688
France.....	88,667	1,011,431	St Pierre and Miquelon, } and the fisheries..... }	488,676	227,171
United States.....	240,137	210,598	Wrecks and salvage.....	14,760	—
Port of Good Hope and } Surinam..... }	34,172	273,328	Total merchandise.....	37,482,179	38,238,308
Other parts.....	22,833	22,710	Specie imported (one- half from Great Britain) }	6,907,087	—
<i>Asia.</i>			Specie exported.....	—	2,288,930
India, British, and } Australia..... }	723,204	108,481		44,389,266	40,525,248
India, Dutch.....	249,184	57,355			
.... French.....	219,344	17,361			

TABLE showing the Number and Tonnage of Vessels engaged in the Foreign Trade of France, which Entered and Cleared at Ports in that Country, distinguishing French from Foreign Vessels, and those employed in the Direct from those employed in the Carrying Trade, also the Value of their Cargoes, in the year 1838.

Vessels and Trade.	Entered.			Cleared.		
	Vessels.	Tons.	Cargoes.	Vessels.	Tons.	Cargoes.
			£			£
French, exclusive of coasters.....	6,861	637,064	12,636,120	5,567	569,882	11,040,186
Foreign, in direct trade with the } country to which they belong }	6,812	844,213	10,671,384	5,126	463,342	14,340,416
Foreign, in carrying trade.....	1,194	170,527	1,809,044	1,194	146,123	2,410,566
Total.....	14,867	1,651,804	25,166,548	11,877	1,181,347	27,791,146

Number and tonnage of merchant vessels, which belonged to the ports of France on 31st Decr 1838, were as follows:—Of 30 tons and under, 10,523; between 30 and 60 tons, 1012; on 60 and 100 tons, 1815; between 100 and 200 tons, 1263; between 200 and 300 tons, 608; on 300 and 400 tons, 213; between 400 and 500 tons, 68; between 500 and 600 tons, 15; on 600 and 700 tons, 3; of 800 tons (1164) and upwards, 1; total number of vessels, 15,386; tons, 606,978.

Trade between France and Great Britain is inconsiderable, when viewed with reference to the capabilities of the two countries to supply their mutual wants, and to their near neighbourhood to each other. This is to be attributed to the exclusive policy introduced by M. Colbert, afterwards imitated in our own country; and to the long continuance of that feverish state of jealousy and hatred which was ever and anon breaking out into fierce and protracted conflicts,—influences which, until a recent period, have led the two nations to act as if each had a higher interest than at any cost to keep itself independent of the other, and to their commercial intercourse being, as it was in most other respects, little more than a connexion of opposition. At one period, indeed, sounder views seemed likely to prevail. In 1786, Mr Pitt concluded the treaty, which was favourable in the highest degree to the extension of commercial relations between France and Great Britain; but this treaty continued in operation only until 1791, when duties were supplanted by a new tariff, reimposing the former prohibitory duties; and the

system then restored may be said to have been adhered to down to the present day, at least on a part of France, in all its leading principles.

At different periods since the peace of 1815, attempts have been made to extend commerce between the two countries. In Great Britain, the discriminating duty on French wines has been repealed; the silk manufactures, formerly prohibited, are now admitted upon a scale of duty which causes a considerable trade in them to be carried on, and at various times the duty has been reduced in a considerable degree upon many minor articles of French produce while in France these concessions have been met with a corresponding spirit. But viewed as a whole, what has been effected is trifling, when compared with what yet remains to be done. The great British staples, coal and iron, articles of which France is deficient, are yet loaded by prohibitory duties, restrictions are likewise imposed by her on hardware, cutlery, cotton yarns, and many other products of English industry. On the other hand, the duties levied in the United Kingdom on brandy, and even many descriptions of French silks and wines, are much too high. Happily the importance of further relaxations is appreciated by the two governments, well as by the great body of the consumers in both countries, so that there is now some prospect that their commercial intercourse will be allowed to grow up to its natural level.

TRADE of the United Kingdom with France at different Periods.

Year.	Official Value.				Declared Value of British and Irish Produce and Manufactures exported to France.
	Imports from France.	Exports to France.			
		British and Irish produce and manufactures.	Foreign and Colonial Merchandise.	Total Exports.	
	£	£	£	£	£
1793	334,370	309,037	334,080	738,067	
1795	41,950		78,653	78,653	
1805	694,745	180	303	303	
1815	734,373	814,894	1,000,000	1,443,000	200,000
1820	773,122	334,067	689,814	1,363,904	200,700
1825	1,035,808	579,518	600,463	1,171,618	300,770
1830	937,006	490,204	121,966	607,340	473,000
1835	2,706,300	1,361,316	806,346	9,067,962	1,432,025
1840	3,123,978	1,709,083	644,800	9,345,618	1,301,300
1845	2,707,307	2,106,644	639,307	2,876,061	1,643,304
1850	3,431,119	3,163,983	699,000	3,865,003	2,314,141
1855	4,022,336	3,118,410	814,343	3,930,633	2,304,307

The principal exports from France into the United Kingdom in the year 1855 were as follow: Apples (official value), £30,051; baskets, £4000; books, £13,729; bonnet sold, 21,000 lbs. boxes, £13,303; bristons, 190,104 cwts.; clocks, £27,000; cork, 8031 cwts.; wheat, 6200 quarters; barley, 104,306 quarters; beans, 27,004 quarters; other grain, 8000 quarters; oat 115,304 cwts.; cotton manufactures, £41,700; eggs, No. 20,234,163; needlework, £19,000; silk and tow, 78,007 cwts.; flowers, artificial, £20,333; furs, martin, No. 13,000; glass bottles, 1,000,000 qts. imp. measure; hair, human, 6000 lbs.; hats of straw, No. 2001; hemp, 19,540 cwt.; linen manufactures, viz. gloves, 1,007,000 pairs; boots and shoes, 40,000 pairs; and other articles, £200 linen articles, viz. cambrics and bordered handkerchiefs, 34,000 pieces; and of other sorts, £200 muslin, 10,044 cwts.; muslin-cloth, 13,211 cwts.; nuts, viz. walnuts, 14,131 bushels; oil of olive 11,113 gallons; and of thyme, 6007 lbs. ocher, 2779 cwts.; paper for hangings, 20,444 sq. yds. of other sorts, 61,940 lbs.; pictures, No. 2316; plaiting, &c. for straw bonnets, 34,007 lbs.; gum and preservatives, 8168 cwts.; prunes, 18,000 cwts.; prints and drawings, No. 113,873; quinine (all prints of), 65,477 ounces; rapeseed and other oil cakes, 207,333 cwts.; silk, 30,470 bushels; silk clover, 26,333 cwts.; union, 42,300 lbs.; tares, 22,040 bushels; silk (chiefly re-exported from Italy raw, 1,010,301 lbs.; waste, knubs, and burls, 209,734 lbs.; throws, dyed 1711 lbs., and undyed 219,000 lbs.; silk manufactures, namely, plain or figured, including ribbons, 220,417 lbs.; gut and gauze ribbons, 10,127 lbs.; crapes, 2000 lbs.; velvets, 2034 lbs.; heavy silk net, 2000 lbs.; but 1730 lbs.; other sorts, £190,305; skins, kid, 600,004; spirits, brandy, 1,935,172 gallons; web goods, 67,050 lbs.; watches, £17,003; water, Cologne, 64,000 bottles; wine, 600,000 gallons; wool sheep's, 63,141 lbs.; woollen manufactures, £122,719. The chief articles on which an increase has taken place of late years are, raw silk and silk manufactures, wine, glass bottles, eggs, glove boxes, bristons, clocks and watches, straw plaiting, quinine, oil-cake.

The principal articles of British produce and manufactures imported into France from the United Kingdom in the same year were as follow:—Apothecary wares (declared value), £11,040; 4 yarel, &c. £22,006; arsenic, 8047 cwts.; books, £2347; coals, 34,373 tons, £106,951; eggs despatched from foreign ore, 34,307 cwts. £263,637; cotton manufactures, namely, calicoes, 2000 fustians, &c., 2,721,368 yds., £36,400; lace and pattern net, 11,840,000 yds., £53,000; bedsteads small wares, £40,250; cotton twist and yarn, 70,101 lbs., £37,004; earthenware, £200; hat wares and cutlery, £67,478; hovers, No. 410, £19,363; iron and steel unwrought, £74,300; iron wrought, £16,364; lead and shot, £19,770; linen manufactures, £247,000; and yarn, 11,000 lbs., £64,144; machinery, £100,309; silk manufactures, £11,640; silk twist and yarn, £20,000; tin, unwrought, 9795 cwts., £37,000; tin plates, £2710; wool, sheep's, 270,100 lbs., £20,100; woollen and worsted yarn, 133,300 lbs., £29,000; woollen manufactures, £61,400. The increase late years has chiefly occurred on the following articles, namely:—Linen manufactures and gut (which now amount to about two-fifths of the whole), coal, copper smelted from foreign ore, silk lace and net, small wares, twist and yarn, hardware, machinery, silk twist and yarn, and web goods. Besides British produce, various foreign and colonial articles are imported from the United Kingdom, the principal being, cinnamon, cochineal, unwrought copper, cocoa, Indian silk (silk

bandanas and handkerchiefs) and cottons, shellac, goat's hair manufactures, indigo, castor oil, pepper, quicksilver, precious stones, saltpetre, spelter, and cotton wool.

In addition to the trade just described, a considerable intercourse is conducted by those effectual reformers of faulty tariffs,—the smugglers. This illicit trade chiefly consists in conveying brandy from France to the S. coast of England, and in introducing some descriptions of yarns and lace into the former, across the frontier by way of Belgium. A great deal of curious information upon this subject is to be found in the Reports in 1832 and 1834, by Mr Villiers and Dr Bowring, on the commercial relations between France and Great Britain; though, since these reports were made, it is believed that in some branches, especially that of yarns, the irregular trade has decreased.

PRINCIPAL PORTS ON THE ATLANTIC.

These, stated in their order along the coast from N. to S., are, Dunkirk, Calais, Boulogne, St Valéry-sur Somme, Dieppe, Fecamp, Harfleur, Le Havre, Honfleur, Caen, Cherbourg, Granville, St Malo, Brest, L'Orient, Nantes, La Rochelle, Rochefort on the Charente, Bordeaux, and Bayonne. Those of Cherbourg, Brest, and L'Orient are, as is well known, principal stations of the French navy. Of the mercantile ports the chief are the following:—

Dunkirk, the most northerly, lies in lat. $51^{\circ} 2' N.$, long. $2^{\circ} 22' E.$; pop. 25,000. The harbour is large and commodious; but there is a dangerous bar at its mouth. It is a free port; and, being connected with several of the canals which intersect Belgium, it is a considerable emporium for wine, brandy, and other articles of French produce, for the supply of that country. The Newfoundland cod-fishery and the herring-fishery are also prosecuted to some extent. During the late war between Great Britain and France, numerous privateers were fitted out from it.

Le Havre, in lat. $49^{\circ} 27' N.$, long. $0^{\circ} 6' E.$ is, next to Marseilles, the principal commercial seaport of France. It is situated on the right bank of the Seine, at its mouth, which is several miles wide; distant 127 miles from Paris (by road), and 42 miles from Rouen: pop. exclusive of suburbs, 28,618. The site of the town is low. The port is comprehended within the circuit of the town, and has communicating with it three basins, capable of accommodating about 500 vessels; but this is inadequate to the growing importance of its trade. At its entrance, which is fortified, is an old tower, built by Francis I., 70 feet in height, from whence signals are made. There are two roadsteads,—the outer or great road, in which large ships always lie, about a league from Havre, and having from 6 to $7\frac{1}{2}$ fathoms water at ebb; the inner or little road, separated from the former by a sand-bank, about half a league distant, having from 3 to $3\frac{1}{2}$ fathoms at ebb, but the rise of tide being about 25 feet, the largest merchantmen are enabled to enter the harbour. Being the principal port of Paris, most of the foreign and colonial produce destined for the consumption of that city is conveyed into it; while its proximity to the district, of which Rouen is the capital, renders it the chief place in France for the importation of cotton, as well as the great centre of the trade with the United States, with which there is a regular communication by means of packets, as at Liverpool. The annual value of the imports is about fr. 200,000,000, or £8,000,000. The chief exports are silk and woollen stuffs, lace, gloves, trinkets, perfumery, wines, and brandy; corn being sometimes exported, and at other times imported. In 1838, the total number of vessels that entered from foreign countries and French colonies was 1381, burden 335,687 tons; whereof belonged to France 563, burden 120,172 tons; to the United States 241, burden 100,860 tons; to Britain 361, burden 89,503 tons. In the same year, the number of coasting vessels which entered was 3034, burden 257,505 tons. At Havre an active intercourse is kept up, not only with Paris and various places on the coast, but with the principal ports of England, and of the N. and S. of Europe. In 1838, the number of steamers which entered was 558, burden 101,561 tons.

Nantes, in lat. $47^{\circ} 13' N.$, long. $1^{\circ} 33' W.$, is situated on the N. bank of the Loire, and derives its importance and prosperity from being the port of that river. The town is ancient and of historical celebrity; pop. 87,191. At spring-tides vessels of 200 tons come up to it; but at other times this can be accomplished only by craft not exceeding 100 tons. Larger ships either remain at Palmbeuf, 25 miles lower down, near the mouth of the river, or at least discharge part of their cargo there. Nantes contains several extensive manufactories, shipbuilding yards, and a victualling establishment for the navy,—provisions being very cheap. The exports are wine, brandy, vinegar, grain, flour, biscuit, butter, silks, woollens, and linens. The chief imports are colonial produce, cotton, indigo, and timber. In 1838, 437 vessels, burden 65,989 tons, entered from foreign countries and French colonies, and 4003 coasters, burden 135,180 tons.

Bordeaux, in lat. $44^{\circ} 50' N.$, long. $0^{\circ} 35' W.$, is situated in the department of Gironde, on the W. bank of the Garonne, which here makes a considerable bend, having the city and its extensive quays on its concave bank, in the form of the crescent moon. It is a very ancient town, and deservedly celebrated. Many of the houses are exceedingly elegant, and the general style of living is luxurious in a higher degree than in any other part of France, except Paris; pop. 95,000. The approach by water is magnificent. The river at its narrowest part is 720 yards across, with a depth of 16 feet at low, and nearly 30 feet at high water. The port is capable of accommodating upwards of 1000 vessels, and such as do not exceed 500 or 600 tons may enter at all times of the tide. Bordeaux is the principal outlet for the wines of the W. districts of France, and even of the southern and midland districts; and these, more especially claret, form its staple trade. The other exports consist of brandy, refined sugar, cattle, hides, provisions, flour, clover-seed, almonds, prunes, chestnuts, walnuts, cork, turpentine, resin, tartar, verdigris, linens, and colonial produce: these are shipped to various parts of Europe, America, the French colonies, or to India. The chief imports are, sugar, coffee, cocoa, cotton, indigo, and tobacco, mostly from the colonies; tin, lead, copper, coals, hardware, timber, hides, hemp, horns, beef, and fish, from Great Britain, the N. of Europe, and America. Its trade is greatly promoted by the Canal of Languedoc, which joins the Garonne, and of which Bordeaux forms the embouchure towards the Atlantic. Shipbuilding and various manufactures are carried on extensively; and there are two large fairs, one of which opens 1st March, the other on the 15th October. In 1838, 692 vessels, burden 112,025 tons, entered the port from foreign countries and French colonies, of which 99 vessels, burden 17,607 tons were British; besides these there entered 5920 coasters, burden 233,210 tons.

PRINCIPAL PORTS ON THE MEDITERRANEAN.

These, stated in their order from E. to W. are, Toulon (a celebrated station of the French navy), Marseilles, Arles, Cette, Agde, Port-Vendres.

Cette, in lat. $43^{\circ} 24' N.$, long. $3^{\circ} 42' E.$, is situated in the department of Hérault, on the narrow stripe of land which separates the étang or lagoon of Thau from the sea. It forms one embouchure of the Great Canal of Languedoc, a circumstance to which its rise and prosperity is alone attributable, as the port is not very good, nor has it the natural facilities for becoming so: it has also canal communication with the Rhone; pop. 11,648. The harbour, which has from 16 to 19 fathoms of water, and can accommodate about 400 vessels, is formed by two lateral moles, with a breakwater across the entrance. The moles are fortified, and on the principal one is a lighthouse, elevated 110 feet above the level of the sea. A considerable trade is carried on in the wines and brandies of Languedoc, of which Cette is the dépôt. The salt-works on the adjoining lagoon are pretty extensive as are also the fisheries, particularly that of sardines. About 130,000 tons of shipping (including coasters) enter annually.

Marseilles, in lat. $43^{\circ} 17' N.$, long. $5^{\circ} 22' E.$, is the principal commercial city and port of France. It is seated at the upper end of a gulf, covered and defended by many small islands, and is divided into the old town, or the city, and the new. In the former, the streets are narrow, and the houses mean; but in the latter, which communicates with the old by a fine street, the squares and buildings are beautiful; pop. about 125,000. Marseilles has been called Europe in miniature; it is a resort of foreigners of all nations, and the variety, continual bustle, and medley of languages which on these occasions, are among its most striking features. The harbour is an oval, of more than half a mile long, and about a quarter of a mile broad, formed by a small inlet of the sea, running onward into the heart of the city, which is built round it; and is capable of accommodating about 1200 vessels. It is very safe but not deep, and frigates cannot enter without difficulty. Opposite the mouth of it, which is narrow, not permitting the entry of more than one ship at a time, are three small islands of If, Rattonneau, and Pomègue; and between the two last is a secure anchorage, where vessels perform quarantine. Exports, chiefly wines, brandy, silks, woollen hosiery, linens, corn, dried fruits, oil, soap, leather, and colonial articles. Marseilles is a great emporium for Levant produce, and it also carries on an active intercourse with Italy, Spain, the Black Sea, Algiers, and other parts of Barbary. In 1838, the number of vessels which entered from foreign countries and French colonies was 3247, burden 481,355 tons; and the number of coasters 3900, burden 264,810 tons. In the same year, the number of steamers that entered was 621, burden 150,456 tons. The customs and other dues collected are estimated at £1,000,000 annually.

CORSICAN PORTS.

Bastia, the principal town and port, is situated on the E. coast, in lat. $42^{\circ} 43' N.$, long. $9^{\circ} 21' E.$; pop. 12,846. The port is unsafe, and not adapted for large vessels. At its entrance is the celebrated rock "Il Leone," so called from its resemblance to a lion in repose, which answers the purpose of a breakwater. Exports, oil, wine, cattle, hides, goat-skins, coral, and wood. It carries on a considerable intercourse with Leghorn, from whence British manufactures and tobacco are smuggled into the island.

Ajaccio lies in a gulf on the N. side, in lat. $41^{\circ} 55' N.$, long. $8^{\circ} 44' E.$; pop. 9000. Exports, wine, oil, and coral.

MEASURES, WEIGHTS, MONEY, FINANCES, &c.

MEASURES AND WEIGHTS.

The French measures and weights may be classed under three heads:—1. The Metrical System. 2. The *Système Usuel*. 3. The Ancient System.

1. The Metrical System,

Instituted in 1795, is used in government transactions, in wholesale trade, and for scientific purposes. It is founded upon the distance of the pole from the equator, the ten millionth part of which, denominated a *mètre*, is decreed to be the unit of length. The other units are—of surface, the *are*; of solidity, the *stère*; of capacity, the *litre*; and of weight, the *gramme*; and the Latin derivatives *déci* (tenth of), *centi* (hundredth of), *milli* (thousandth of), being prefixed to that expressing the unit, serve to denominate its subdivisions; while the Greek derivatives *déca* (ten), *hecto* (one hundred), *kilo* (thousand), *myria* (ten thousand), express its multiples. Thus *déci-mètre* denotes the $\frac{1}{10}$ th of a *mètre*, and *déca-mètre* 10 *mètres*.

Mètre of 10 *décimètres*, 100 *centi-mètres*, or 1000 *millimètres* = 1.093633 Imp. yard, or nearly $30\frac{1}{2}$ Imp. inches; and 32 *mètres* = 35 Imp. yds. nearly:—1000 *mètres*, 100 *décamètres*, or 10 *hectomètres* = 1 *kilomètre*, or metrical mile = 3280.839 Imp. feet = about $1093\frac{1}{2}$ Imp. yds., or nearly 5 furlongs; and 10 *kilomètres* = 1 *myriamètre*, or metrical league = 6.213824 Imp. miles, or = 6 miles, 1 furlong, 28 poles, and $2\frac{1}{2}$ yds.

Are (100 sq. *mètres*), or metrical perch of 10 *décares*, or 100 *centiares* = 119.6033 Imp. sq. yds., or nearly 3 sq. poles and 29 sq. yds.; 100 *ares*, or 10 *décares* = 1 *hectare* = 2.471143 Imp. acres = 2 acres, 1 rood, 35 sq. poles, $11\frac{1}{2}$ sq. yds.; or 17 hectares = 42 Imp. acres nearly.

Stère (or cubic *mètre*) of 10 *décistères* =

35.316581 Imp. cubic feet or 1.300022 Imp. cub. yd.; and 10 *stères* = 1 *décastère*.

Litre (or cubic *décimètre*), of 10 *decilitres*, or 100 *centilitres* = 61.027062 Imp. cubic inches = 0.220097 Imp. gall., or about $1\frac{1}{2}$ Imp. pint; and 50 *litres* = 11 Imp. galls. nearly. 100 *litres*, or 10 *décalitres* = 1 *hectolitre* = 2.751207, or about $2\frac{1}{2}$ Imp. bush.; and 32 *hectolitres* = 11 Imp. bush. nearly. 100 *hectolitres*, or 10 *kilolitres* (or *centimetres*) = 1 *myrialitre* = 34.380066, or about 3 Imp. qrs. $3\frac{1}{2}$ bush.

Gramme, weighing 1 cubic centimètre of water at its maximum of density, and containing 1 *décigrammes*, or 100 *centigrammes* = 15.432356 troy grains; 1000 *grammes*, 100 *décagrammes*, or 10 *hectogrammes* = 1 *kilogramme* = 2.204622636 lbs. avoirdupois, or 3 oz. and $4\frac{1}{2}$ drams, or 2.204857 lbs. avoirdupois, and 288 *kilogrammes* = 635 lbs. avoirdupois nearly; 100 *kilogrammes*, or 10 *myriagrammes* = 1 *metrical quintal* = 220.4622636 lbs. avoirdupois, or 1 cwt. 3 qrs. 24 lbs. $7\frac{1}{2}$ ounces nearly; and 10 *quintals*, the weight of a cubic *mètre* of water = 1 *millier* or *marine ton* = 19 cwt. 2 qrs. 20 lbs. $13\frac{1}{2}$ oz.

2. The *Système Usuel*

Was established in 1812 for the purposes of retail trade, in consequence of the aversion shown by the common people to the innovations of the metrical system. It tolerates the names of the old measures necessary in the inferior departments of trade, while, by a slight alteration, the value of these measures is so fixed as to bear certain definite proportions to the metrical system. Its divisions, also, instead of being decimal, are chiefly binary, from the greater convenience of the latter in small transactions.

dm = 9 mètres = 6 Imp. feet 09

1 m. jth of the toise.

dm = 13 décimètres = 47½ Imp.

dm = 1 litre = 1½ Imp. pint nearly

and = ½ hectolitre = 1 Imp. peck

or 1½ peck nearly.

dm = ½ kilogramme = 1 lb. 1 oz.

and, or 7717 Troy grains.

2. The Ancient System

ally employed, particularly in road

plans de roi = 19490 mètre = 21315

or about 6 feet 4½ inches.

toise = 19494 mètre = 48½ Imp.

q. of 8000 toises or 2 miles = 3-208

r 6000 Imp. yards; Marine league

league, or 60 marine miles = 5 555

476 Imp. yards, League of 25 to

4644 kilomètres = 4689 Imp. yards.

cent-et-dixième = 51-073 ares = 1-202

arpent common = 42-2808 ares =

60; Arpent de Paris = 34-1867 ares

are.

mesure, of 25 setiers, 144 quarts,

= 500 litres = 40-945 Imp. gallons.

mesure of Paris, of 12 setiers, 24

mts, 144 boites-vaux, or 5304 litres

litres = 51 508 Imp bushels.

de de Mère), of 2 marcs, 16 ounces,

deniers, 9616 grains = 489-5 gram

roy grains; the quintal of 100 livres

avaire.

—Ton of 4 barriques = 212 litres

galls. Vols = 1½ Imp. galls. nearly

Money.

of account is the franc, which is

100 centimes, and is equivalent to

sterling. Prior to 1797, the money of

the livre tournois of 20 sous each

24 livres are equal to 80 francs.

coins are as follow —Gold pieces

worth 31s. 6½d. sterling, and pieces

sometimes called Napoleons, or new

of 10s. 10½d., these are minted at the

francs from the kilogramme of

of the fineness of 900 millesimes

, or 9/10ths, the remedy of the mint

was in the weight, and the same in

—Silver pieces of 5, 2, 1, ½, and

and at the rate of 800 francs from

of standard metal of 9/10ths fine

of the mint, allowed both on the

the fineness, varying from 3 mil

in 5 franc pieces, to 11 millesimes

pieces.—Billon or copper pieces

2, 1, and ½ centimes, the 1/10th

centime, or 1 décime, contain 1/10th

Of the old coins the principal are

of 24 livres, worth about 10s. 9½d

and the silver coin of 4

about 4s. 6½d., with half a quar

the copper coin, accounted equal

of mint charge, according to the

to 5 francs per kilogramme of gold

of 900 millesimes, or 10 francs per

of fine gold, and 1½ per cent. on

if a kilogramme of gold 9/10ths fine

the mint, the amount returned is

times instead of 3100 francs, the

to it is minted: for a kilogramme

fine also, 197 francs only will be

of 200 francs. The fixed mint

in gold and silver are then issued

of value, and all variations in their

are expressed in agios or premiums

to.

The par of exchange with London, deduced from the gold coins, is 25 francs 20½ centes, and from the silver coins 25 francs 67 centes for £1,—the value of the franc being in the former case 9534, in the latter 9541; but these rates are of little use in practice, as, while in this country gold forms the established medium of payment, in France being undervalued by the mint regulations in respect to silver, it cannot (at least in large transactions) be obtained at the rate legally or nominally given to the coin, but must be purchased at its current market-price or premium. This premium, therefore, must always be taken into account in computing the metallic par for the purpose of the London exchange. At Paris, January 3, 1860, the quotation for gold was 71 per mille premium, which at the rate of £3, 17s. 1½d. per ounce (British standard) produced an exchange of 25 francs 24 centes per £1 and made the franc equal 9474.

The usage of bills throughout France, and of bills on London, is 30 days' date. No days of grace are allowed.

BANKS, &c.

The Bank of France was established on its present footing in Paris in 1803, but a similar national institution existed in that city under different forms and designations, from the year 1718. It received a grant for 60 years, and its original capital was fr. 70,000,000, divided into 70,000 shares of 1000 fr. each, which, however, was soon increased to fr. 80,000,000 (£13,000,000). The bank has since repurchased 17,100 of these shares thereby reducing its actual capital to fr. 62,900,000 (£2,718,000). It circulates notes for fr. 500 and upwards, payable in specie on demand, receives deposits, and discounts bills of exchange. It also makes advances on bonds and other securities. It likewise undertakes the care of plate, jewels, title-deeds, and securities of all kinds; the charge for which is 1½ per cent. on their value for every period of 6 months or under. Its affairs are managed by a governor and deputy-governor, nominated by the king, and by 17 regents, and 3 censors, elected by 500 of the principal shareholders. A statement (compte rendu) of the bank's affairs is published annually, and the following is a copy of that issued in April 1861:—

Amount of bullion on hand	fr. 245,087,400-00
Commercial bills discounted	122,198,084-94
Advanced on the security of bullion	14,473,100-00
Advanced on public securities	6,221,841-06
Branch banks, debtor	14,338,814-70
Capital of branch banks	12,000,000-00
Amount of reserve, according to law of 1834	10,000,000-00
Amount vested in public securities	80,177,230-00
Hotel and furniture of the bank	4,000,000-00
Sundries	487,746-73
	<hr/> 478,886,467-04

Contra.

Bank notes in circulation, not comprising branch banks	fr. 223,800,000-00
Notes payable to order	1,210,310-00
Treasury account-current	80,860,418-20
Sundry accounts-current	62,610,000-00
Receipts payable at sight	4,434,800-00
Capital of the bank	67,900,000-00
Reserve, according to law of 1834	10,000,000-00
Fixed reserve	4,000,000-00
Unclaimed dividends	428,180-73
Draughts of branch banks outstanding	284,840-53
Sundry accounts	1,742,280-24
	<hr/> 478,886,467-04

The Bank of France has branches in various places; in addition to which, there were in 1861

the following other establishments issuing paper; namely, the banks of Bordeaux, Rouen, Lyons, Nantes, Marseilles, and Lille. Of these six departmental banks, the aggregate capital, in the year just mentioned, was fr. 14,550,000; specie on hand, fr. 14,583,000; notes in circulation, fr. 35,199,000; deposits, fr. 7,971,000.

Besides these, there is the Havre, and a variety of other joint-stock banks in the provinces. The Lafitte Bank, lately established at Paris, issues "bank bills" bearing interest.

The French commercial code recognises three kinds of commercial societies for purposes of a permanent nature; namely, 1st, Societies "en nom Collectif," or common partnerships; 2d, Societies "en Commandite," the nature of which we have already described [COMPANY]; and 3d, Anonymous societies. These last resemble joint-stock companies in this country. Their capital is divided into shares; each holder is liable only to the amount of those which he possesses; and the business is carried on by a few individuals elected by the shareholders, who are not personally responsible to the public. According to a report of the French Chambers, the number of companies of the two latter classes established in France from 1826 to the close of 1837, was,—Societies en Commandite, 1106; joint-stock companies, 157. Of the former, there relate to journals, periodicals, and books, 401; manufactures, 95; coaches and modes of conveyance, 93; forges, metals, and the coal trade, 60; navigation, 52; banks, 40; insurance, 27; agriculture, 25; theatres, 24; miscellaneous, 289. The shares of the companies are generally divided into very small sums, some as low as 10 and 5 franca.

FINANCES.

The following is an account of the public revenue and expenditure for the year 1838:—

Revenue.

Land-tax, &c.	fr. 261,852,762
Poll-tax & house-tax	55,289,000
Door & window taxes	29,279,107
License duties	35,606,000
Registration duties, fr. 174,960,000	
Stamps	31,200,000
Sale & auction duties	5,650,000
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Timber & other forest produce	32,478,633
Fishing duties	400,000
	<hr/>
Customs duties, &c.	105,126,000
Salt tax	55,534,000
Excise duties on liquors, &c.	85,040,000
Sale of tobacco	77,850,000
Sale of gunpowder	4,720,000
Sundries	37,895,000
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Postage of letters	35,900,000
Packets, &c.	9,355,000
	<hr/>
Weights & measures, brevets, &c.	9,076,000
	<hr/>
Sum of ordinary taxes	1,047,211,502
Revenue from Algiers	1,700,000
Revenue from India	1,000,000
Interest on Spanish loan	1,892,576
Sundries, including repayment of loans to commercial houses in 1830	1,800,000
	<hr/>
Total fr.	1,053,604,078
Or	£42,144,163

Expenditure.

Interest, &c. on public debt	fr. 276,016,496
Pensions	52,541,000
Civil list	13,000,000
Chambers of peers and deputies, and legion of honour	3,205,309
Ministry of Justice	18,685,045
— Religion	36,439,809
— Foreign affairs	7,370,622
— Public instruction	12,987,673
— Interior	74,727,275
— Public works, viz.	
Royal roads & bridges	23,280,000
Ports & internal navigation	13,135,000
Other expenses	17,934,878
	<hr/>
Ministry of war, viz.	
Expenditure in France	202,189,058
Occupation of Ancona	791,562
African possessions	25,743,309
	<hr/>
Ministry of marine and colonies:—	
Seamen and marines	22,965,300
Shipbuilding	18,069,600
Colonies	7,620,000
Sundries	16,343,500
	<hr/>
Administration of finance	21,534,000
Collection of taxes	119,870,150
Reimbursements	53,828,134
	<hr/>
Total fr.	1,037,268,000
Or	£41,400,722

Besides the state revenues, various taxes are levied by the communes, for defraying their own expenses: Of these the principal is the *octrois*, or duties levied in the towns on all goods which pass through their barriers, the product of which is applied to defray the expenses of hospitals, poor-houses, and other local charges.

Debt.

The annual charge on account of the public debt on 1st January 1838, consisted of the following sums:—

Rentes, 5 per cent.	fr. 147,063,472
— 4½ per cent.	1,000,000
— 4 per cent.	11,972,205
— 3 per cent.	35,905,605
Sinking fund	44,616,453
Interest and sinking fund on loans for canals and bridges	9,936,000
	<hr/>
Consolidated debt and sinking fund	250,516,496
Interest of <i>Capitaux des cautionnements</i>	9,000,000
Floating debt	10,000,000
Annuities and pensions	58,054,000
	<hr/>
Total fr.	327,566,496
Or	£13,102,000

The dividends on the 5, 4½ and 4 per cent. rentes are payable on 22d March and 22d September; those on the 3 per cents on 22d June and 22d December.

The rentes are the only French securities negotiable in England. They are either in bonds of various amounts, payable to the bearer, or are inscribed in the name of the holder in the record of the public debt. The former pass from hand to hand without the necessity of a written assignment; and the dividends to English holders

are payable by Messrs Rothschild, at the current rate of exchange, upon the coupons being left for a few days at their office. In order to assign the inscribed rentes, however, the seller must grant a power of attorney, authorizing some party in Paris to sign the transfer in the record book; on completing which, a certificate of the inscription is issued, which must be returned in case of a new assignment. The dividends on the inscribed rentes are payable in Paris, where they can be received by an agent, duly authorized by power of attorney.

The public debt of France, after deducting the sinking fund, now exceeds £200,000,000 sterling. It has increased considerably since the conclusion of the war in 1815; the ordinary revenues during the 26 years that have since elapsed having been seldom equal to the expenditure. This was more particularly the case

in the first four years of the period owing to the expenses of the army of occupation (£18,995,524), and the contributions paid to the allies (£53,585,524). A considerable augmentation of charge was also occasioned between 1821 and 1823 by the invasion of Spain; in 1828, by the invasion of the Morea; and in 1830, and subsequent years, by the occupation of Algiers, and the state of circumstances which arose out of the revolution in July in that year. At the commencement of 1836, it was stated by M. Humann, minister of finance, that the debt had been increased since July 1830 by about fr. 800,000,000 (£32,000,000), entailing a charge of fr. 40,000,000 (£1,600,000) per annum. To these causes of increased debt has to be added the hostile demonstrations which arose out of the line of policy adopted by M. Thiers in 1840, and the fortifications of Paris.

ABSTRACT OF CONVENTION OF COMMERCE AND NAVIGATION between Great Britain and France, January 26, 1826. (*Hertslet's Treaties*, vol. iii. p. 123.)

The two powers being animated by the desire of facilitating the commercial intercourse between their respective subjects; and being persuaded that nothing can more contribute to this object than to simplify and equalize the navigation regulations of both kingdoms, by the reciprocal abrogation of all discriminating duties levied upon the vessels of either of the two nations in the ports of the other;—have named as their plenipotentiaries, to conclude a convention for this purpose, that is to say, his Majesty the King of Great Britain and Ireland, the Right Honourable George Canning and the Right Honourable William Huskisson; and his Majesty the King of France and Navarre, the Prince Jules, Count de Polignac; who have agreed upon and concluded the following articles:—

I. French vessels coming from or departing for France, or, if in ballast, from any place, shall not be subject in the ports of the U. K. to any higher duties of tonnage, harbour, light, pilotage, or other similar duties than those to which British vessels, in respect to the same voyages, are subject; and, reciprocally, British vessels placed on the same footing in the ports of France. But the French king reserves to himself to regulate the amount of such duties in France according to the rate at which they may be established in the U. K.; with the disposition, however, to reduce the amount of the said burthens in France in proportion to any reduction hereafter made of those now levied in the U. K.

II. Goods which may be legally imported into the U. K. from France, if imported in French vessels, shall be subject to no higher duties than if imported in British vessels; and reciprocally as regards importations in British vessels into France. The produce of Asia, Africa, and America, not being allowed to be imported into the U. K. (except for warehousing and re-exportation) in French vessels, nor from France in British vessels, the King of France reserves to himself to direct, that, in like manner, such produce shall not be imported into France (except for warehousing and re-exportation) in British vessels, nor from the U. K. in French vessels.

With regard to European productions, it is understood that such shall not be imported in British ships into France for consumption, unless laden therewith in some port of the U. K.; and the British king may adopt, if he think fit, some corresponding restrictive measure with reference to French vessels.

FRANKFORT, a small republican state on the confines of Bavaria, consisting of the city of Frankfort on the Maine and the adjacent territory. Area, 90 sq. miles. Population, 63,936. The government is vested in a senate, a permanent committee of burgesses, and a legislative body.

The city of Frankfort is now the chief money market of Central Germany, and banking, including exchange operations, is its principal source of wealth. It is likewise a place of considerable transit

III. All goods which may be legally exported from either of the two countries, shall, on their export, pay the same duties, whether such exportation be made in British or French vessels, provided they proceed direct from the one country to the other. And all such goods shall be reciprocally entitled to the same bounties, drawbacks, and other allowances.

IV. The vessels of any third power shall in no case obtain more favourable conditions than those herein stipulated.

V. Fishing boats of either country forced by stress of weather to seek shelter in the other, not subject to duties or port-charges, provided they have not effected any landing or shipment of goods.

VI. This convention shall be reciprocally in force in all European possessions of the two powers.

VII. The convention to exist for 10 years from April 5, 1826; and further, until the end of 12 months after either of the parties shall have given notice to the other of its intention to terminate its operation.

Additional Articles (Jan. 26, 1826).

I. French vessels allowed to sail from any French possession to all British possessions (except those of East India Co.), and to import into them all kinds of goods produced in French possessions, except such as are prohibited to be imported into said colonies, or are only permitted from British possessions; and the said French vessels and merchandise shall not be subject to higher duties than British vessels importing the same merchandise from any foreign country, or which are imposed on the merchandise itself.

The same facilities shall be granted reciprocally in the colonies of France. And as all foreign merchandise may now be imported into British colonies in the ships of the country producing the same, except a limited list of articles, which can only be imported in British ships, the king of the U. K. reserves the power of adding to such excepted articles any other of French produce which may appear necessary for placing the colonies of the two countries upon a fair footing of reciprocity.

II. Similar privileges, reciprocally granted to the vessels of the two powers exporting merchandise from their respective colonies.

These two articles to have the same validity as if inserted in forsaidd convention.

for wines, English, French, and Italian goods, German wools and manufactures, and colonial produce; while the inhabitants of the adjacent villages, within the republic, follow the occupation of carriers through many states of Germany. Two extensive fairs are held in the city; one beginning properly on Easter Tuesday, the other on the Monday nearest to the 8th of September; but they usually commence from one to two weeks previously. The trade at these fairs, however, as well as of the town in general, which is that of an entrepôt, has declined since the establishment of the Prussian Commercial Union, the effect of which has been to remove those obstacles to free intercourse which previously existed between many of the German States. This Union was at first resisted by Frankfort, but being surrounded on all sides by confederated states, it was obliged to give its assent, in order to prevent the greater evil of absolute isolation.

Measures and Weights.—The foot = 11.42, and the ell 21.54 Imp. inches, or 100 ells = 59.85 Imp. yards; Dutch commodities, however, are commonly sold by the Brabant ell, and French commodities by the Paris aune.

The olm of 20 viertels, 80 old mass, or 90 new mass (each mass of 4 schoppen) = 31.57 Imp. gallons.

The achtel or malter of 4 simmers, 8 metzen, or 16 sechters = 3.16 Imp. bushels.

The heavy pound contains 2 marcs, 32 loths, or 128 drachmes; the light pound is similarly divided, and 100 heavy lbs. or centner weight = 108 lbs. light weight; also 100 lbs. heavy weight = 111.43 lbs. avoird., and 100 lbs. light weight = 103.18 lbs. avoirdupois.

Gold and silver are weighed by the Cologne mark, the Frankfort standard of which contains 3611 troy grains, and their fineness is expressed in the manner explained under the head **GERMANY**.

Money.—Accounts are stated in florins of 60 kreusers, or in rixdollars current of 90 kreusers; and 1 rixdollar = 1½ florin = 22½ batzen. These denominations, however, differ in value accord-

ing to the standard of the money in which they are reckoned. Official payments are commonly made in *Convention* (or 20 florin rate) money; ordinary payments in the new (24½ florin rate) standard introduced in 1838, in which the value of the florin is 19.90d., or about 1s. 8d. [**GERMANY**]; and bills in *Wechsel-Zahlung*, or exchange-reckoning. The last is an imaginary money, valued at the rate of 9 florins, 12 kreusers for the gold carolin,—the same coin being reckoned in *Convention* money at 9 florins 10 kreusers. Hence 276 exchange florins = 273 *Convention* florins; and as the value of the *Convention* florin is 24.37d., we have in *Wechsel-Zahlung* the florin = 24.29d., the rixdollar = 36.43d., the batze, in which the exchange with London is reckoned = 1.02d., and the per 100 batzen per £1.

Usage of bills not payable at the fair is 14 days' sight. The days of grace are 4; but none are allowed on bills at less than 4 days' sight or date.

Finances.—Annual revenue about £6,000. Public debt nearly £750,000.

FRANKINCENSE, a name given to two very different substances; namely, **OLIBANUM** and **BURGUNDY PITCH**, under which heads they are respectively described; the former is the *Thus* or *frankincense* of the ancients.

FREIGHT in the contract of affreightment [**APFREIGHTMENT**] is the sum which the merchant pays for the safe conveyance of cargo or the use of the vessel. Freight is generally said not to be strictly due, except on the arrival of the vessel with the cargo. If it has been necessary to abandon the vessel, however, freight will be earned by conveying the goods to their destination by the best method which circumstances will admit of. Freight will not be lost in consequence of interruption, such as capture and recapture. If goods be thrown overboard, in pursuance of the *Lex Rhodia de jactis*, freight must be paid, and ranked [**AVERAGE**]. If the freight is calculated by time, it begins to run from the period of the ship's breaking ground and commencing her voyage. When, in the case of a charter-party, in which the merchant bargains for carrying so much cargo, and he fail to produce the full quantity, compensation is due for the damage to the owner, by reason of his having to look out for another cargo, or to let his vessel lie partly unoccupied: this is occasionally called *Dead Freight*. The shipmaster has a lien on the cargo for freight; but there is none on the goods conveyed for dead freight. If the merchant demand his goods before the stipulated voyage has been accomplished, full freight is due. In a charter-party, the shipper is liable for freight, unless there be a stipulation to the contrary, and where the ship is on general freight, he is likewise in the ordinary case liable; but there may be circumstances in which the responsibility is transferred to the consignee. "The consignee or indorsee of the bill of lading may be sued, if he have received the goods in pursuance of a bill of lading, imposing the payment of freight upon him; at all events, in cases where there is no charter-party. But the acceptance of the goods is not of itself sufficient to impose charges in respect thereof, although other circumstances concurring with acceptance may; and if there be not only a bill of lading, but a charter-party containing an express contract by the charterer to pay freight, the law will not, from his mere receipt of goods under the bill of lading, raise an implied promise from an indorsee to do so, in the absence of an express one." (*Smith's Mercantile L.*, 258, 259. *Shee's Abbot*, 359-424.)

FRIENDLY, OR BENEFIT SOCIETY, is in a late act defined somewhat vaguely to be an association "for the mutual relief and maintenance of all and every the members thereof, their wives, children, relations, or nominees, in sickness, infancy, advanced age, widowhood, or any other natural state or contingency whereof the occurrence is susceptible of calculation by way of average." But in practice such societies generally aim at only three objects,—1st, The making pro-

be an allowance to their members during sickness ; 2d, For an allowance age ; and 3d, For a payment at death.

It would be difficult to trace at what precise time friendly societies in their present form took their rise. The advantages of associations of this kind, however, seems to have been appreciated at a very early period, although they did not attract the notice of the legislature until 1773, and there was no statutory enactment for regulation prior to the year 1793, when the act was passed which is known by the name of its author, Mr George Rose. The provisions of that statute were amended and improved by others in 1795, 1803, 1809, 1817, and 1819, by which a large number of societies that had been formed in the United Kingdom was legalized. But the principles upon which they should be conducted were so little understood, and their management so often confided to persons unqualified for the task, that the common result was a speedy dissolution. Even in the best regulated, the sickness contributions had to be founded on supposition, as no steps were taken to ascertain, from actual observation, the average rates adapted to different periods of life, until this was undertaken by the Highland Society. Its report, published in 1824, was the means of arousing public attention to the merits and defects of friendly societies as then constituted ; and in 1825 and 1827 a great light was thrown upon the subject by the reports of the Select Committees of the House of Commons appointed in those years. These reports prepared the way for the passing of the act 10 Geo. IV. c. 56, which, with the 4 & 5 Wm. IV. c. 3 & 4 Vict. c. 73, embodies the whole of the existing statutory regulations for the guidance of friendly societies. The following are the principal enactments :—

Every society, before being sanctioned, must specify the purpose of the society, and embody directions for the application of the funds for such purpose, in terms of the provisions of the acts, and conformably with the privileges conceded by them. They must specify the place of meeting of the society, and contain provisions as to the powers and duties of the members at large, and of the office-bearers and office-bearers ; also whether disputes are to be referred to the justices of the peace or to arbitrators. (10 Geo. IV. c. 56, §§ 3, 10, 27.)

Transcripts of the rules, signed by three members, and countersigned by the clerk or secretary, accompanied, in the case of an alteration or amendment of the rules, with an affidavit of one of the members of the society, that the statutory provisions have been complied with), with all speed, shall be made, altered, or amended, and so from time to time, after every making, or amending thereof, shall be submitted in England and Wales to the barrister-at-law (now John Tidd Pratt, Esq., No. 4, Elm Court, Temple, London), appointed to certify of savings banks ; and in Scotland to the Lord Advocate, or any depute appointed by him for that purpose ; and in Ireland to such barrister as may be named by the Attorney General ; who shall ascertain whether such rules, alterations, or amendments are calculated to carry out the intention of the parties, and are in conformity to law, and to the said acts, and shall give certificate of the same on each of the said transcripts, or point out in what respect the rules are repugnant thereto ; for all which the said barrister or advocate shall receive no more at any one time than a guinea ; and one of such certified transcripts shall be returned to the society, and the other transmitted by the barrister or advocate to the clerk of the peace for the county wherein such society shall be formed, and by him laid before the Justices at the General Sessions, or adjournment thereof, held next after the time when such certified transcript has been transmitted to him ; and the said Justices are authorized and required, without fee, to allow and confirm the same ; and such transcript shall be enrolled without fee, and all alterations, and amendments, shall be binding from the time when certified. (4 & 5 Wm. IV. c. 3, § 4.)

A society shall not be entitled to fee in respect of alterations within three years ; nor for certificate being copies of those already enrolled. (Ib. § 5.)

The acts shall provide, that, once a-year at least, a general statement of the funds of the society shall be prepared ; and every member shall be entitled to receive a copy thereof, on payment of a fee not exceeding 6d. (10 Geo. IV. c. 56, § 33.)

For the purpose of securing data for correct calculations of tables of payments and allowances, every society established under the acts shall, within 3 months after December 1835, and again, within 5 years after the expiration of every further period of 5 years, transmit to the certifying barrister a return of the rate of sickness and mortality experienced within the before-mentioned period of 5 years, according to the form prescribed in the act. (Ib. § 34, and 4 & 5 Wm. IV. c. 40, § 6.)

Office-bearers, as provided by the rules, are authorized and required, with consent of the society, to invest the funds in real or heritable securities or property, government securities, or the chartered banks in Scotland, and not otherwise. (10 Geo. IV. c. 56, § 13.)

A society established under the acts is empowered to invest the whole, or any part of its funds in savings banks instituted under 9 Geo. IV. c. 92, and that without any restriction as to the mode of investment. (4 & 5 Wm. IV. c. 40, § 9.)

A society may also lodge any sum, not being less than £50, with the Bank of England, to the credit of the Commissioners for the Reduction of the National Debt, on a declaration by two or more members, or trustees, that the money exclusively belongs to the society, and with the same has in other respects as are followed by savings banks. The interest allowed is 2½d. per annum, or £3, 16s. 0½d. per year. (10 Geo. IV. c. 56, § 31, and 9 Geo. IV. c. 92, § 16.)

Any person who, as treasurer or other officer, has any of the property of the society in his possession, and who becomes insolvent or bankrupt, the person having, as executor, creditor, or otherwise, any claim to the estate, must, within 40 days after a demand made in writing, pay whatever is due to the society in preference to other claims. (Ib. § 12.)

The property is vested in the treasurer or trustee for the time being, without any conveyance necessary, and he may transfer the same to his successor, except a transfer in the case of public stock ; and such office-bearer

may one or be used in his capacity of office-bearer, and may bring or defend actions when authorized by a majority of the society. (10 Gen. IV. c. 28, § 31.)

When a member dies, entitled to a sum not exceeding £50, the office-bearer, if entitled to do so, has left no will, and that no administration or confirmation is to be taken out, may apply to the court according to the rules or if there are no rules on the subject, may divide it among the persons entitled to succeed to the effects of the deceased without administration or confirmation. (11 Gen. IV. c. 28, § 32.)

No stamp duty is payable in respect of the transactions, receipts, payments, or deeds of a society constituted under the act. (12 Gen. IV. c. 28, § 33.)

Exemption from stamp-duty not to extend to societies in which the sum assured to an individual exceeds £500. No society, by the rules of which a sum exceeding £500 may be assured to an individual, to invest its funds in savings banks, or with the National Debt Commissioners, except so much as may be required on account of contingencies made provision for the act. (13 Gen. IV. c. 28, § 34.)

No society when once regularly constituted, can be dissolved before the purposes for which it was instituted have been carried into effect, without the consent of three-fourths in value of its members, and of all the individuals entitled to relief. (14 Gen. IV. c. 28, § 35.)

In the constitution of friendly societies, the chief difficulty will always be the adjustment of the sickness contributions and allowances; and, even supposing the general law, or average rate of sickness to be ascertained, very great care will be required in determining the modifications to which it must be subjected before being applied to particular classes of persons. Hitherto only two attempts have been made on a large scale to ascertain the average rate of sickness. The first is that of the Highland Society, already mentioned, which is founded on numerous returns by Scotch friendly societies. The second is founded on similar returns by English friendly societies made to the Society for the Diffusion of Useful Knowledge, the results of which were published in 1836 by Mr Ansell, in his "Treatise on Friendly Societies." The following shows the mean annual sickness at different ages, deduced from these returns:—

	Age 21.	Age 25.	Age 30.	Age 35.	Age 40.	Age 45.
Scotch societies.	4 1	4 8	4 7	4 13	4 10	4 12
English societies.	5 13	6 20	6 9	6 19	6 10	6 10

The returns to the Highland Society did not furnish data for a table of mortality, and their calculations proceeded upon an average of the Northampton, Carlisle, and latest Swedish tables. In Mr Ansell's work, however, a table is given, deduced from ages 20 to 70, from the experience of the English societies; but the imperfect nature of the materials furnished to him renders it unworthy of much confidence.

Of the modern friendly societies there is probably none deserving of higher reputation than the "Edinburgh School of Arts Friendly Society," instituted in 1820, the tables of which were framed by Mr John Lyon, the gentleman employed to digest the returns to the Highland Society, and revised by the late Mr Fitch Cockburn, an eminent accountant in Edinburgh; and the following extracts from their tables will furnish a good example of the contributions and allowances adopted to a society composed of respectable working men in a large city. They are constructed by adding 50 per cent to the rates of sickness exhibited by the tables of the Highland Society (as these were ascertained to be too low), by assuming the rate of mortality of these tables, and by taking the rate of interest at 4 per cent. They give entrants the option of joining sickness schemes up to the ages of 60 or 65, with annuities to commence at those ages respectively; but it may be observed that a very general preference is given by members to the former.

I. SICKNESS FUND. (Entry Money, 2s. 6d. Males only admissible.) A weekly allowance of 10s. constitutes one share, and any member may take one, one and a half, or two shares. The full allowance to be paid for 23 weeks of sickness, three fourths for other 32 weeks, and one-half for the remainder of all temporary or permanent sickness up to the age of 60 or 65, when the annuity, or permanent provision for old age (shown in Scheme II.), is to commence.

ANNUAL CONTRIBUTIONS FOR ONE SHARE.

Age next birthday	To enter at 25	To enter at 30	To enter at 35	Age next birthday	To enter at 40	To enter at 45	Age next birthday	To enter at 50	To enter at 55
19	£ 4 1	£ 4 1	£ 4 1	30	£ 4 1	£ 4 1	41	£ 4 1	£ 4 1
20	£ 4 1	£ 4 1	£ 4 1	31	£ 4 1	£ 4 1	42	£ 4 1	£ 4 1
21	£ 4 1	£ 4 1	£ 4 1	32	£ 4 1	£ 4 1	43	£ 4 1	£ 4 1
22	£ 4 1	£ 4 1	£ 4 1	33	£ 4 1	£ 4 1	44	£ 4 1	£ 4 1
23	£ 4 1	£ 4 1	£ 4 1	34	£ 4 1	£ 4 1	45	£ 4 1	£ 4 1
24	£ 4 1	£ 4 1	£ 4 1	35	£ 4 1	£ 4 1	46	£ 4 1	£ 4 1
25	£ 4 1	£ 4 1	£ 4 1	36	£ 4 1	£ 4 1	47	£ 4 1	£ 4 1
26	£ 4 1	£ 4 1	£ 4 1	37	£ 4 1	£ 4 1	48	£ 4 1	£ 4 1
27	£ 4 1	£ 4 1	£ 4 1	38	£ 4 1	£ 4 1	49	£ 4 1	£ 4 1
28	£ 4 1	£ 4 1	£ 4 1	39	£ 4 1	£ 4 1	50	£ 4 1	£ 4 1
29	£ 4 1	£ 4 1	£ 4 1	40	£ 4 1	£ 4 1	51	£ 4 1	£ 4 1

II. DEFERRED ANNUITY FUND. (*Entry Money, 2s. 6d. Females admissible.*) An annuity of £8, payable quarterly, commencing at the age of 60 or 65, whether in sickness or in health, constitutes one share; and any member may take one, two, three, or four shares.

ANNUAL CONTRIBUTIONS FOR ONE SHARE. (*Females pay One-Fourth more.*)

Age next birthday.	To cease at 60.	To cease at 65.	Age next birthday.	To cease at 60.	To cease at 65.	Age next birthday.	To cease at 60.	To cease at 65.
19	£ s. d. 0 8 4	£ s. d. 0 4 10½	30	£ s. d. 0 17 8	£ s. d. 0 9 6	41	£ s. d. 1 12 9½	£ s. d. 1 0 8
20	0 9 3½	0 5 2½	31	0 18 7½	0 10 1½	42	2 2 8	1 1 10½
21	0 9 11	0 5 6½	32	0 19 11	0 10 9½	43	2 6 7½	1 3 8
22	0 10 8½	0 5 10½	33	1 1 4	0 11 6½	44	2 11 1	1 6 8
23	0 11 2½	0 6 3	34	1 2 10½	0 12 3½	45	2 16 9	1 7 10½
24	0 11 10½	0 6 7	35	1 4 7½	0 13 2	46	3 2 0	1 10 4½
25	0 12 8	0 7 0	36	1 6 8½	0 14 1½	47	3 8 8½	1 13 1½
26	0 13 5½	0 7 5	37	1 8 6	0 15 1½	48	3 16 7	1 16 3
27	0 14 4	0 7 10½	38	1 10 9½	0 16 3	49	4 3 10	1 19 10
28	0 15 3½	0 8 4½	39	1 13 3½	0 17 8½	50	4 16 11	2 3 11
29	0 16 3	0 8 11	40	1 16 1	0 18 9½			

III. LIFE ASSURANCE FUND. (*Entry Money, 2s. 6d. Females admissible.*) The sum of £10 payable at death, constitutes one share; and any member may take from one to three shares.

ANNUAL CONTRIBUTIONS FOR ONE SHARE. (*Females pay One-Sixth less.*)

Age next birthday.	To cease at 60.	To cease at 65.	Age next birthday.	To cease at 60.	To cease at 65.	Age next birthday.	To cease at 60.	To cease at 65.
19	£ s. d. 0 3 4	£ s. d. 0 3 3	30	£ s. d. 0 4 8½	£ s. d. 0 4 4½	41	£ s. d. 0 7 0½	£ s. d. 0 6 4½
20	0 3 5	0 3 4	31	0 4 9	0 4 6	42	0 7 5	0 6 8
21	0 3 6	0 3 5	32	0 4 11	0 4 8	43	0 7 9½	0 6 11½
22	0 3 7	0 3 6	33	0 5 1	0 4 9½	44	0 8 3	0 7 3
23	0 3 8½	0 3 7	34	0 5 3	0 4 11½	45	0 8 8	0 7 7½
24	0 3 9½	0 3 8	35	0 5 5½	0 5 1½	46	0 9 3½	0 7 11½
25	0 3 11	0 3 9½	36	0 5 8	0 5 3½	47	0 9 11	0 8 4½
26	0 4 0	0 3 10½	37	0 5 11	0 5 6	48	0 10 7½	0 8 10
27	0 4 1½	0 4 0	38	0 6 2	0 5 8½	49	0 11 5½	0 9 4
28	0 4 3	0 4 1	39	0 6 5½	0 5 11	50	0 12 5½	0 9 11
29	0 4 5	0 4 3½	40	0 6 9	0 6 1½			

Summary of the Rules of the Edinburgh School of Arts Friendly Society.

1. No person admitted after the age of 50.
2. Ages of applicants require to be certified by birth certificates, or, if such cannot be procured, by some other satisfactory evidence.
3. Male candidates for admission must apply personally to the committee on the first Monday evening of any month, and pay their entry-money. Any applicant who may be rejected by the committee will receive back all his payments, with the exception of 6d. for each fund for which he proposes becoming a member.
4. The benefits of each fund may be secured either by a single payment on admission, or by a annual or monthly contribution per advance, corresponding to the number of shares held, and the age at entry; and members may also at any time reduce, or entirely redeem, their future annual or monthly contributions, by payments (not less than £1 to account).
5. Persons entering the sickness fund must do at least one share in the annuity fund.
6. Members not having at first taken the utmost extent of benefits allowed, and wishing afterwards to increase their shares, may do so upon the same conditions as new entrants.
7. Members are entitled to benefit from the sickness and life assurance funds upon the expiry of one year from their enrolment. Should any one die before that period, all payments will be returned to his representatives, with the exception of interest, fines, and entry-money. Likewise, any member leaving the country, or unable to continue his payments, will, on withdrawing from the society, receive a proportion of his past contributions.
8. The only other payments exigible beyond the sums specified in the tables are, 1d. per month for management on the first share in each fund, 1s. 6d. for a copy of the full set of rules, interest on arrears, and small fines for non-attendance at general meetings.
9. There is a fund distinct from those for the benefits, for defraying the expenses of management, consisting of sums received from the honorary auxiliary fund, entry-moneys, contributions for management, and payments from other sources which need not be more particularly mentioned.
10. All the operations of each of the three schemes are kept separate; the funds in possession and the value of the future contributions are balanced at the end of every five years with the value of the future allowances, and the real state of the society's affairs satisfactorily ascertained.

BENEFIT BUILDING SOCIETIES are associations instituted under the act 6 & 7 Wm. V. c. 32, for the purpose of raising, by periodical subscriptions of not more than £1 per month, shares not exceeding £150, for the purpose of enabling the holder

to receive the value, and therewith erect or purchase a dwelling-house, or other real or leasehold estate, to be secured by mortgage to the society, till the amount of the share and all expenses have been paid, with interest ; it being competent for such societies to receive a bonus from any member, in consideration of his receiving his share in advance, and to appoint forms of conveyance for the sale and mortgaging of the property. The regulations as to friendly societies in general, apply to benefit building societies, in so far as they may be applicable to the peculiar purposes of the latter. (Ib. § 4.)

FULLER'S EARTH, a soft, dull, greasy kind of clay, usually of a greenish brown colour. It is found in various parts of the south of England, particularly in Surrey, near Nuthill and Ryegate. It is used in the fulling of cloth, from its property of absorbing oil and greasy matter. In Surrey, two kinds are distinguished ; yellow earth, the best, employed for the finer cloths of Wiltshire and Gloucestershire and blue earth, principally used in fulling coarser cloths in Yorkshire.

FUNDS, a term used in reference to those government obligations which constitute what is called the funded debt of the United Kingdom. The condition of mankind, in ancient times, made the decision of national contests dependent upon the numbers, courage, and military talents of the contending nations ; but the great alteration in the modern state of society, and changes in the art of war, have introduced a different principle ; and money is now said to supply the sinews of war, and gold rather than steel is accounted the instrument which leads to victory. In the middle ages, the general state of wealth was insufficient to furnish the means of long-continued hostilities. For those that were undertaken, supplies from the people were obtained to a certain extent, either in the shape of money or of feudal services ; loans also were raised, partly compulsory, and sometimes by pledging the crown lands and jewels. But the irregular mode of borrowing in those days bore but little analogy to that which has since obtained under the name of the funding system, and supplied the expense of those extensive and lasting wars which have been waged in later times.

This system is commonly said to have originated in the 15th century in Venice where money capital first became abundant. It was next adopted by Holland and was introduced into England shortly after the revolution of 1688. At first the term fund meant the taxes appropriated to the discharge of the principal and interest of the loans ; those who held government securities, and sold them to others, selling of course a corresponding claim upon some fund. But afterwards and when this mode of appropriating taxes was abandoned, the meaning attached to the term was gradually changed ; and instead of denoting the revenues upon the security of which the loans were advanced, it has for a long time signified the principal of the loans themselves. The term *stock* is used in the same sense, and is also applied to the sums which form the capital of the Bank of England, East India Company, and other public societies.

The fundholder or public creditor is differently situated from an ordinary creditor. He is viewed not as having lent his money, but as having invested it in the purchase of a perpetual annuity, subject to the condition that it may be redeemed on the terms stipulated at the time of granting it, whenever the state shall think fit. But, although he thus gives up the right of ever demanding repayment of the principal of his debt, he may sell to another person the annuity which he has purchased from the state ; and the mode of transferring it, even in small sums, is so conveniently arranged, and the annuities or dividends are, in this country, so regularly paid, that it is always considered an eligible property.

MANNER OF CREATING LOANS.

At the first introduction of the funding system into this kingdom, the capital of the loan was fixed, and the interest, as in the case of an ordinary debt, was arranged according to the state of the money market ; but about the middle of last century the practice was introduced of fixing the rate of interest or annuity, and bargaining with the contractors for a larger or smaller amount of capital stock. Thus, if it were agreed to negotiate the loan in a 3 per cent. stock, while the market rate of interest was 6 per cent., this would be effected by giving for each £100 paid £200 of 3 per cent. stock ; while, again, if the market rate were 4½ per cent., this would be effected by assigning £150 of such stock.

All loans are effected under the authority of Parliament ; but in practice it is usual for the Chancellor of Exchequer to arrange the terms of the loan with contractors before the act has been obtained, the negotiation being subject to the ratification of the legislature. When a new loan is made, it is thrown open to

m. "The Chancellor of Exchequer fixes upon the funds in which the loan is to be made. These are often of different kinds, and not unfrequently a *long annuity* is a part of the emolument. He then gives public intimation that he is willing to receive offers and assign the loan to those who are willing to accept of the lowest terms. If a long annuity be a part of the proposed loan, the other funds to be assigned to the lenders are fixed at a rate somewhat less than the estimated value for each £100 borrowed, and the bidding is for a long annuity; the loan being granted to those who will accept of the least addition to the capital offered. If the loan be in different funds, but not a long annuity, the capitals in all the funds, except one, are previously fixed, and the bidding is on that fund; the loan being granted to those who will accept of the least addition to the capital. The Chancellor of Exchequer is generally attended at the time by several of the principal bankers in London, who deliver their bids, and the loan is assigned to the lender who proposes the lowest terms.

Dividends are always payable by instalments at different periods of the year. Dividends are payable on the whole from the first usual term of the funds after the loan is made. Thus, the lender receives dividends during the whole year, although he only advances the money on the days appointed for the instalments; or if he advances the whole at first, he is allowed a discount, and he derives part of his profit from these allowances; and, according to the terms of the loan, he is generally possessed of several interests; perhaps, in a 3 per cent. fund, so much in a five per cent. fund, so much in a long annuity, and formerly so much in lottery tickets. After the loan is completed, the several interests are assignable separately; but when the loan is in progress, they are either assigned separately or together. The separate parts in this business are called *scrip*, and their united amount is called *omnium*. To obtain a loan, it is necessary that the value of *omnium* at the time of the loan should be above par. This difference, which often amounts to 5 per cent. or upwards, is called the *bonus* to the lenders. Instances, however, have occurred in which the price of *omnium* fell below par before the loan was completed. Lenders who do not pay their instalments at the appointed terms forfeit their subscription. The Bank of England not unfrequently lends its aid in advancing some of the instalments.

The value of *scrip*, after any given number of payments have been made thereon, is ascertained by deducting the amount of the remaining payments from the value of the *scrip* at the market price." (*Hamilton on the National Debt*, 2d edit. p. 244.)

PROGRESS AND PRESENT STATE OF THE NATIONAL DEBT.

The debt of this country, which was inconsiderable at the Revolution, has increased in little more than a century to an extent far beyond what was ever known in any other age or nation; indeed, far beyond what any person at its commencement, or even a long time afterwards, believed to be practicable. During the reign of George IV., the increase during every reign, except the pacific reign of George I., was greater than during the preceding. The increase during every war was greater than during the preceding. The increase during the last of every war was greater than during the early period. The increase during the last of every war has been greater than was held forth when hostilities commenced. The part paid off during the intervals of peace has borne a small proportion to that contracted in the preceding war. No one can foresee how far the debt may be carried, or in what manner it will terminate.

The following table shows the amount of the national debt at various periods since the Revolution:—

Revolution	1689..	£664,263	Peace of Paris	1763	£130,000,000
Swick	1697..	21,515,742	Commencement of American		
War	1701..	16,394,701	War	1779..	129,000,000
Peace of the War	1714..	53,681,076	Peace of Versailles	1783..	268,000,000
Commencement of the Spanish			Commencement of French		
War	1740..	46,449,568	War	1793..	261,735,059
Peace of La Chapelle	1748..	78,293,313	Annual charge, £9,471,675		
Peace of "Seven			On January 5, 1816		885,186,325
Years"	1756..	75,000,000	On January 5, 1841		849,998,073

The above table includes both the funded and unfunded portions of the debt; the funded portion consisting generally of Exchequer bills. [EXCHEQUER BILLS.] In the years

1816 and 1841, the constituent parts of the capital of the debt, and the annual charges thereon, were respectively as follow :—

	Capital.		Annual Charge.	
	1816.	1841.	1816.	1841.
3 per cent. stock.....£	580,916,019	513,776,749	17,427,480	15,413,382
3½.....	10,740,013	949,530,456	375,900	8,733,588
4.....	75,725,504	1,615,388	3,029,080	64,613
5.....	148,930,403	1,449,135	7,446,520	72,457
Perpetual annuities.....£	816,311,939	765,371,725	28,278,990	24,283,940
Terminable annuities.....	30,080,347	53,000,000	1,894,612	4,114,021
Unfunded debt not provided for.....	38,794,038	21,626,350	1,998,937	740,054
Charge for management.....	....	....	204,673	158,353
Total unredemmed debt.....£	885,186,324	840,928,075	32,457,142	29,296,378

The reduction on the capital of the debt from 1816 to 1841, it will be thus observed, is only £37,268,249, which is the excess of the sums redeemed beyond those added in that period. The former was effected, partly by the direct application of surplus revenue, and partly by converting the perpetual annuities into terminable annuities, as afterwards explained. The excess of income over expenditure from 5th January 1816 to 5th January 1837, is stated by Mr Porter (*Progress of the Nation*, sec. iv. c. 2, p. 301) to have been £46,086,321; but between 5th January 1837 and 5th January 1841, there has been an annual deficiency of revenue, amounting on the whole to £4,300,760, which reduces the net surplus in the 25 years from 1816 to £41,785,561. The amount redeemed by converting perpetual into terminable annuities has not been published; but it appears, from the statements of the government actuary, that, for some years past, the annual charge on account of the latter has exceeded their equivalent perpetuities by upwards of £2,000,000. The chief additions to the debt, in the period under notice, were created by the parliamentary grant of £20,000,000, for the emancipation of the negro slaves in the colonies;* and by the financial operation in the year 1822 (noticed below), for the reduction of the interest on a portion of the debt,—a measure which had the effect of adding £7,481,393 to the capital.

Greater progress, however, has been made in the reduction of the annual charge, the difference on the gross amounts in 1816 and 1841 respectively being (£32,457,142—29,296,378) £3,160,764; while, if the terminable annuities at both periods be converted into their equivalent perpetuities, the difference will be found to be nearly £4,500,000,† being a diminution of 14 per cent. This has been effected mainly by the reduction of the capital of the debt already explained, and (to the extent of £2,355,845) by the fall of the market rate of interest at different periods below the nominal rates of 4 and 5 per cent. formerly borne by different species of stock. The latter operations, which took place in 1822, 1824, 1830, and 1834, may be explained as follow :—

In 1822, the reduction in the market rate of interest caused an advance of the 5 per cent. stock to 6 or 8 per cent. above par, and advantage was taken of this circumstance to induce the holders to exchange each £100 of 5 per cents for £105 of 4 per cents. Only a very small proportion of the holders dissented from the proposal, £149,627,825 of 5 per cents being exchanged for £157,109,218 of 4 per cents; and thus while the capital of the debt was increased by £7,481,393, the annual

* The capital created on account of this grant consisted of £5,171,624, 4s. 5d. in the 3½ per cent. procured by an arrangement (5 & 6 Wm. IV. c. 45, and 6 & 7 Wm. IV. c. 82) with the Commissioners for the Reduction of the National Debt; and a direct loan, in 1835, of £15,000,000 (3 & 4 Wm. IV. c. 73), the consideration for which was an equivalent amount in 3 per cent. stock, namely, 75 per cent. in the 3 per cent. consols, and 25 per cent. in the 3 per cent. reduced annuities, besides a long annuity of 13s. 7d. per cent. per annum, expiring in 1860, and amounting to £101,875.

Any other loans necessary since 1815 have been usually created by the issue of Exchequer bills, which have been funded as occasion required.

† The annual charge in 1816 was £32,457,141; but if instead of the £1,894,612 of terminable annuities included therein, there be substituted their equivalent perpetuities, estimated at £830,000, the amount will be reduced to £31,392,529. Again, the annual charge in 1841 was £29,296,378, and, substituting for the £4,114,021 of terminable annuities included therein, their equivalent perpetuities, estimated at £1,750,000, the amount will be reduced to £26,932,357. The difference between the two, £4,460,172, may be viewed as the extent to which the permanent annual charge on the debt has been reduced since 1816.

was reduced by £1,197,022. In 1824, another saving of £350,597 per annum was effected, by reducing to $3\frac{1}{2}$ per cent. the interest payable on £70,105,403 of 4 per cent. annuities. Again, in 1830, a saving to the extent of £755,110 was effected by transferring into a $3\frac{1}{2}$ per cent. stock the 4 per cents created on the occasion of the reduction of 1822; and in 1834 a further saving of £53,116 was effected by transferring the "4 per cents 1826" to a $3\frac{1}{2}$ per cent. stock.

On the occasion of the reduction of 1830, an option was offered to the holders of £100 of 4 per cents to receive either £100 of $3\frac{1}{2}$ per cents, or, what would give an equal return, £70 of new 5 per cents, the government engaging not to reduce this 5 per cent. stock, or to reduce the interest upon it, until after the expiration of 45 years from its creation. But the option thus given was embraced to a small extent, the amount of 5 per cents created having been only £474,374. The holders of 4 per cents as refused to receive the diminished rate of $3\frac{1}{2}$ per cent. sold off at par. The amount of stock held by these dissentients, about $2\frac{1}{2}$ millions, was liquidated by means of an issue of Exchequer bills.

EXPLANATION OF THE DIFFERENT FUNDS OR STOCKS.

British Perpetual Annuities.

1. Sea Stock and Annuities.—These have all, by successive parliamentary enactments, been created out of the capital of the celebrated SOUTH SEA COMPANY, the amount of which will be found under that head. They comprise four descriptions of stock, namely:—

1. Sea Stock, 1733, £3,662,784, 8s. 6½d. This is the trading stock of the company, upon which the interest paid by the state is 3 per cent.; but an additional half per cent. is paid to the proprietors from certain fines to which the company is entitled from ships trading within the bounds of their charter, and from advances made for the management of this portion of the public debt. Should the company, however, be unable to produce the full half per cent., government is bound to supply the deficiency.

2. cent. Old South Sea Annuities, £3,497,870, 2s. 7d. This was created a 3 per cent. fund in 1757, having previously borne interest at 5, 4, and $3\frac{1}{2}$ per cent. Dividends due April 5, and October 10.

3. cent. New South Sea Annuities, £2,460,830, 2s. 10d. In the same condition as the last mentioned. Dividends due January 5 and July 5.

4. cent. South Sea Annuities, 1751, £523,100. This stock originated in a loan which was raised in the year just mentioned, to pay off those who dissented from the reduction of interest which was then made in the old and new annuities. Dividends due January 5 and July 5.

5. cent. Bank Annuities, 1726, £825,251, 19s. This stock, originally £1,000,000, was created by a lottery to pay off certain Exchequer bills. Dividends due January 5 and July 5.

6. cent. Consolidated Annuities, commonly called Consols, 1751, £362,542,977, 3s. 6d. This stock, originally only £9,137,821, derives its name from having been formed by the consolidation of several stocks which had before been kept separate. It is by far the largest of the public funds, a circumstance which, joined to the proportionally great number of its holders, renders it the most liable to be affected by those circumstances which tend to elevate or depress the price of the stock. On this account it is preferred by speculators. Dividends due January 5 and July 5.

7. cent. Reduced Annuities, 1757, £125,861,030, 7s. 10d. The name of this stock is derived from the circumstance of its interest having been reduced from a rate, $3\frac{1}{2}$ per cent., which it bore prior to 1757. Its price is regulated by the preceding; being however generally about $\frac{1}{2}$ per cent. higher or lower (according to the time of year), in consequence of its dividends becoming due at different periods from those on consols. Dividends due April 5 and October 10.

8. cent. Consolidated Annuities, 1818, £10,159,721, 17s. 1d. This stock was created partly by the funding of Exchequer Bills, and partly by the conversion of 5 per cents—the holders of the latter purchasing the additional half per cent. by a money subscription, then given in aid of the sinking fund. In 1829, it was made redeemable at par, upon six months' notice being given in the Gazette, and was placed upon the Royal Exchange, by payments of not less than £500,000 at a time. Dividends due April 5 and October 10.

9. cent. Reduced Annuities, 1825, £66,259,849, 12s. 9d. This stock was created by the conversion of the "Old Four per cents." It is now also, as well as the preceding, redeemable at par. Dividends due April 5 and October 10.

Debt, was £1,514,320, 10s. 10d., vested, almost wholly, in 3 per cent. annuities and Consols.

The dividends are payable on the third day after they become due day intervenes, they are not payable until the fourth day. Those on Stock and Annuities are payable at the South Sea House; the others at England.

Irish Perpetual Annuities.

These consist of 3 per cent. Irish Consolidated Annuities, £39,300,000; 3 per cent. Reduced Annuities, £115,197, 10s. 10d.; 3½ per cent. Irish Stock, £14,567,562, 7s. 2d.; Reduced 3½ per cent. Annuities, £926,621, 3½ per cent. Annuities, £12,390,823, 18s. 10d.; New 5 per cent. Annuities, £19s. Adding to which, £2,630,769, 4s. 8d. due to the Bank of Ireland, £1,615,384, 12s. 4d. at 4 per cent., and £1,015,384, 12s. 4d. at 5 per cent., £33,909,206, 14s. 10d., the amount of the capital of the Irish Fund January 1841. The dividends on the Irish Stocks are payable in Ireland.

Terminable Annuities.

In the year 1808, the Commissioners for the Reduction of the National Debt were empowered to grant annuities for the life either of the person or of a term of years, upon such an amount of perpetual annuities being transferred to them as, when calculated according to a scale varying with the prices of the stocks, was considered equivalent to the present value. But it is singular, that with the experience which could then have been obtained, the correct elucidation of this subject, the tables adopted were incorrect, which entailed a very heavy loss upon the public. In 1827, when investigated by the government actuary, the loss, through miscale tables, was proceeding at the rate of about £400,000 a-year. It pointed out to the finance minister as early as 1819, but no active step was taken to remedy it until 1828, and even then the rates at which annuities were granted upon the lives of old persons were found to be so unprofitable to the government that they had again, after a time, to interfere, and to limit the amount which they could be obtained. They are now granted under authority of IV. c. 24, upon conditions which are explained under the head ANNUITIES, which they are, by a later act, 3 Wm. IV. c. 14, granted on a modified scale, the medium of savings banks. [BANKS FOR SAVINGS.] The whole were as follow :—

Life Annuities, per 48 Geo. III. c. 142, 10 Geo. IV. c. 24, and 3 Wm. IV. c. 14
Other Life Annuities, per various acts
Annuities for a limited term of years, per 60 Geo. III. c. 34, 10 Geo. IV. c. 24
3 Wm. IV. c. 14
Dead Weight Annuity, payable to the Bank of England, per 4 Geo. IV. c. 22 [WINDSOR], expires 1867
Long Annuities, or Annuities for a term of years, expiring January 3, 1868, granted chiefly as premiums to the subscribers to loans

two funds; and that, for example, if £100 in a 3 per cent. stock cost £90, the same amount would cost £105 in a $3\frac{1}{2}$ per cent. stock, £120 in a 4 per cent. stock, and £150 in a 5 per cent. stock, as each of these investments would yield the same return of interest,—namely, £3, 6s. 8d. per cent. But there are peculiar circumstances which render this rule subject to variations. Thus, the exchangeable value of 3 per cent. stock is always greater than that of funds bearing a higher rate of interest, in consequence of the liability to which the latter are exposed of being sooner discharged at par, by means of creating other stock bearing a lower rate. Again, those funds in which, either from their small amount, or some other cause, there are comparatively few transactions, will not commonly bear so high a price as those in which more frequent operations, and consequently greater fluctuations, offer a more attractive lure to speculation. It is from this cause that the 3 per cent. Bank Annuities of 1726, the entire amount of which is only about £850,000, are generally at least 1 per cent. lower in price than the 3 per cent. consols. In other cases, however, it is difficult to account satisfactorily for the preference shown by the public for one description of stock over another.

Investments in the funds being made with various objects, the choice of the stock must, in some respects, be regulated by the ulterior views of the purchasers. When made for temporary purposes, stocks bearing the higher rate of interest may commonly be selected without much risk of loss from such a source. The same liability of being redeemed which admits of the purchase being made at the lower rate will indeed equally exist, and affect the price whenever a sale is made; but in the interval an advantage in point of income will have been secured.

The general causes which affect the price of stocks are changes in the market-rate of interest, or in the political or financial condition of the country. "In ordinary times, the public funds, from the certainty and regularity in the payment of the dividends, and the great facility with which transfers may be made, offer as advantageous an investment as any other which is open to capitalists; and the price of stocks, accordingly, will commonly be so high as not to afford the purchaser more than the current rate of interest for money lent upon good security. The chances of fluctuation, however, will in general prevent the price from rising much beyond this point. On the other hand, it will be apt to be depressed to a lower level, not only by any actual derangement in the public finances, but also by whatever may be supposed to have ever so indirect or remote a tendency to affect the ability of the state to fulfil its pecuniary engagements. Whenever a new loan is raised, inasmuch as the burden of the debt is thereby increased, the price of stock is generally lowered for the moment. Again, it is usually lower in time of war than in time of peace; and during an unfortunate than during a successful war. It is often affected by the apparent stability of the administration, as dependent upon the issue of the party contests in parliament. Sometimes the price of the funds has been brought down by the imposition of a tax, sometimes by the repeal of one. In the former case, the delicate and apprehensive pulse of the money-market may be supposed to have been acted upon, commonly either by a dread of the public impatience under a new burden, or by the view taken of the measure as an indication of increased financial difficulties on the part of the state; in the latter, by a feeling of the security of the fundholder being in some degree diminished, in consequence of the extinction of one of the usual sources from which the dividends, together with the other expenses of the government, have been paid. But it would be scarcely possible to arrange, under any number of general heads, all 'the skyeey influences' that are capable of elevating or depressing this most sensitive barometer, the nature of which is to be agitated by every breeze of popular exhilaration or nervous despondency, by every fit of suspicion or confidence, by every hope and fear, almost by every passion, imagination, and caprice of the human heart. It may be observed, however, that in the fluctuations of the funds, a fall of prices by what we may call a start or a leap, has been a much more frequent phenomenon than an equally sudden rise to any considerable extent. The depression which is at once produced by a panic is generally recovered from only by degrees." (*Companion to the Newspaper*, No. 40, p. 69.)

The manner of transferring stock is described by Dr Hamilton as follows:—

"Agreements for the sale of stock are generally made at the Stock Exchange, which is frequented by a set of middlemen called jobbers, whose business is to accommodate buyers and sellers with the exact sums they want. A jobber must be possessed of considerable property in the funds; and he declares a price, suppose 59½ or 59¾ in the three per cent. consols; that is, he is willing to buy any sum from any person at 59½, or sell him at 59¾. By this means, one who wishes to sell, suppose £375, 10s. and could hardly find a purchaser for that precise sum without the assistance of a jobber, obtains his purpose, and the smallest sums are purchased and sold with the utmost

facility. The jobber's profit is generally $\frac{1}{2}$ per cent., for which he transacts both a sale and a purchase; and these persons often engage in no other stock speculation, but go away when the business of the day is over, possessed of the exact sum of stock they had in the morning.

"The bargain being agreed on, is carried into execution at the Transfer Office, at the Bank, at the South Sea House. For this purpose the seller makes out a note in writing, which contains the name and designation of the seller and purchaser, and the sum and description of the stock to be transferred. He delivers this to the proper clerk, and then fills up a receipt, a printed form which, with blanks, is obtained at the office. The clerk, in the meantime, examines the seller's account, and if he find him possessed of the stock proposed to be sold, he makes out the transfer. This is signed in the book by the seller, who delivers the receipt to the clerk; and upon the purchaser's signing his acceptance in the book, the clerk signs the receipt as witness. It is then delivered to the purchaser upon payment of the money, and thus the business is completed.

"This business is generally transacted by brokers, who derive their authority from their employers by powers of attorney. Forms of these are obtained at the respective offices. Some authorize the broker to sell, others to accept a purchase, and others to receive the dividends. Some comprehend all these objects, and the two last are generally united. Powers of attorney authorizing to sell, must be deposited in the proper office for examination one day before selling. A stockholder acting personally after granting a letter of attorney, revokes it by implication.

"The person in whose name the stock is invested when the books are shut, previous to the payment of the dividends, receives the dividend for the half-year preceding; and, therefore, a purchaser, during the currency of the half-year, has the benefit of the interest on the stock he buys, from the last term of payment to the day of transfer. The price of stock, therefore, rises gradually, *ceteris paribus*, from term to term; and when the dividend is paid, it undergoes a fall equal thereto. Thus the 3 per cent. consols should be higher than the 3 per cent. reduced, by $\frac{1}{2}$ per cent. from 5th April to 5th July, and from 10th October to 5th January; and should be as much lower from 5th January to 5th March, and from 5th July to 10th October; and this is nearly the case. Accidental circumstances may occasion a slight deviation.

"The dividends on the different stocks being payable at different terms, it is in the power of the stockholders to invest their property in such a manner as to draw their income quarterly.

"The business of speculating in the stocks is founded on the variation of the price of stock, which it probably tends, in some measure, to support. It consists in buying or selling stock, according to the views entertained by those engaged in this business of the probability of the value rising or falling.

"This business is partly conducted by persons who have property in the funds. But a practice also prevails among those who have no such property of contracting for the sale of stock, on a future day at a price now agreed on. For example, A may agree to sell B £10,000 of three per cent. stock, to be transferred in twenty days, for £6000. A has, in fact, no such stock; but, if the price on the day appointed for the transfer be only 58, he may purchase as much as will enable him to fulfil his bargain for £5800, and thus gain £200 by the transaction. On the other hand, if the price of that stock should rise to 62, he will lose £200. The business is generally settled without any actual purchase of stock or transfer, by A paying to B, or receiving from him, the difference between the price of stock on the day of settlement and the price agreed on.

"This practice, which amounts to nothing else than a wager concerning the price of stock, is not sanctioned by law, yet it is carried on to a great extent; and as neither party can be compelled by law to implement these bargains, their sense of honour and the disgrace attending a breach of contract, are the principles by which the business is supported. In the language of the Stock Exchange, the buyer is called a *Bull*, and the seller a *Bear*, and the person who refuses to pay his loss is called a *Lame Duck*; and the names of these defaulters are exhibited in the hall of the Stock Exchange, where they dare not appear afterwards.

"The most usual times for which bargains of this sort are made, are the first transfer days in February, May, August, and November. These are called *rencontre*, or settling days. Sometimes instead of paying the difference on the *rencontre*-days, the settlement is deferred to a future day on such terms as the parties agree on. This is called a *continuation*." (*Hamilton on the National Debt*, p. 248.)

TRANSFER REGULATIONS.

Bank of England.

	Transfer Days.	Dividend Due.
New 5 per Cent.....	Tu. W. Fri.	Jan. 5 and July 5.
New 3½ per Cent.....	Tu. W. Th. Fr.	
3 per Cent. Consols....	Tu. W. Th. Fr.	
3 per Cent. 1726.....	Tu. Th.	April 5 and Oct. 10.
Ann. for Terms of Yrs. Mon. W. Fr.		
Bank Stock.....	Tues. Th. Fr.	
3½ per Ct. Consols, 1818	Tues. Th. Fr.	
3½ per Cent. Reduced...	Tu. W. Th. Fr.	
3 per Cent. Reduced...	Tu. W. Th. Fr.	
Long Annuities.....	Mon. W. Sat.	
Ann. for Terms of Yrs.	Tues. Th.	

South Sea House.

South Sea Stock.....	Mond. W. Fri.	Jan. 5 and July 5.
3 per Ct. New S. S. An.	Tues. Th. Sat.	
3 per Cent. 1751.....	Tues. Th. Sat.	April 5 and Oct. 10.
3 per Ct. Old S. S. Ann.	Mon. W. Fr.	

The rate of brokerage is 2s. 6d. on the £100 upon the stock transferred. There is no stamp-

duty upon transfers of government stock; but the transfer of South Sea stock under £100 is 9s. 6d., above it, 12s.

The books at the transfer offices are always shut for about six weeks previous to the days of payment, during which period no transfers can be regularly made.

The expense of a power of attorney is £1, 1s. 6d. for each government stock, and for South Sea stock, £1, 11s. 6d.

Tickets for preparing transfers must be deposited in the respective offices before one o'clock, otherwise a fee of 2s. 6d. is demanded for each; on the payment of this fee, however, transfer may be made on any day of the week up to 3 o'clock at the Bank, and half-past 2 o'clock at the South Sea House, provided the books are not shut for the dividend. Transfers forwarded in the usual manner, without fee, are made void if not executed by half-past 2 o'clock. These regulations apply both to the Bank and South Sea House.

The following tables will serve to facilitate computations respecting the value of the different stocks,—the first by showing the portion of accruing interest or dividend necessary to be deducted from their price as usually quoted in the market,

are comparing them with each other,—the second by showing their proportional amount in reference to the same yearly return of interest. The use of these tables as has been extended, it will be observed, to other descriptions of stock besides those of the government.

and showing the Amount of Dividend which has accrued upon various Stocks on the first Day of each Month.

	Dividends due Jan. 5 & July 5.			Dividends due April 5 & Oct. 10.		
	Consols 3 per cent.	New 3½ per cent.	E. L. Stock. 10½ per cent.	Reduced 5 per cent.	Reduced 3½ per cent.	E. of E. Stock 7 per cent.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
January	1 9 4	1 14 3	5 2 9	0 14 1	0 16 5	1 12 10
February	0 4 6	0 5 3	0 15 8	0 19 4	1 2 7	2 8 2
March	0 9 1	0 10 8	1 11 11	1 4 1	1 8 1	2 10 2
April	0 14 3	0 15 8	2 2 11	1 9 4	1 14 3	3 8 6
May	0 19 3	1 2 5	3 7 4	0 4 2	0 4 10	0 9 8
June	1 4 4	1 8 5	4 8 3	0 9 1	0 10 7	1 1 9
July	1 9 4	1 14 3	5 2 9	0 13 10	0 16 2	1 12 4
August	0 4 8	0 5 2	0 15 5	0 18 10	1 1 11	2 3 10
September	0 9 8	0 11 0	1 13 1	1 3 9	1 7 9	2 15 6
October	0 14 4	0 16 9	2 10 3	1 8 7	1 13 4	3 8 8
November	0 19 6	1 2 8	3 7 11	0 3 9	0 4 4	0 8 8
December	1 4 4	1 8 4	4 5 0	0 8 10	0 10 3	1 0 6

and showing the Prices which Stocks, yielding different Rates of Dividend, would respectively bear, in order to produce the same Return of Interest; also the corresponding Number of Years' Purchase for Perpetual Annuities.

Years/ months.	Interest Yearly	3 per cent.	3½ per cent.	4 per cent.	4½ per cent.	5 per cent.	5½ per cent.	6 per cent.	6½ per cent.	7 per cent.	7½ per cent.	8 per cent.	10½ per cent.
20	£ s. d.	100	116½	133½	150	166½	183½	200	216½	233½	250	266½	350
21	3 0 7	90	115½	132½	148½	165½	181½	198	214½	231	247½	264	346½
22	3 1 6	87½	115½	130	146½	162½	178½	195	211½	227½	243½	260	341½
23	3 2 6	86	115	128	144	160	176	192	208	224	240	256	336
24	3 3 6	84½	110½	126	141½	157½	173½	189	204½	220½	236½	252	330½
25	3 4 6	83	108½	124	139½	155	170½	186	201½	217	232½	248	325½
26	3 5 7	81½	106½	122	137½	152½	167½	183	198½	213½	228½	244	320½
27	3 6 8	80	105	120	135	150	165	180	195	210	225	240	315
28	3 7 10	88½	103½	118	132½	147½	162½	177	191½	206½	221½	236	309½
29	3 9 0	87	101½	116	130½	145	159½	174	188½	203	217½	232	304½
30	3 10 2	85½	100½	114	128½	142½	156½	171	185½	199½	213½	228	299½
31	3 11 5	84	100	112	126	140	154	168	182	196	210	224	294
32	3 12 8	82½	98½	110	123½	137½	151½	165	179½	192½	206½	220	289½
33	3 14 1	81	94½	108	121½	135	148½	162	176½	189	202½	216	283½
34	3 15 6	79½	92½	106	119½	132½	145½	159	172½	185½	198½	212	278½
35	3 16 11	78	91	104	117	130	143	156	169	182	195	208	273
36	3 18 5	76½	89½	102	114½	127½	140½	153	165½	178½	191½	204	267½
37	4 0 0	75	87½	100	112½	125	137½	150	162½	175	187½	200	262½
38	4 1 7	73½	85½	98	110½	122½	134½	147	159½	171½	183½	196	257½
39	4 3 4	72	84	96	108	120	132	144	156	168	180	192	252
40	4 5 1	70½	82½	94	105½	117½	129½	141	152½	164½	176½	188	246½
41	4 6 11	69	80½	92	103½	115	126½	138	149½	161	172½	184	241½
42	4 8 11	67½	78½	90	101½	112½	123½	135	146½	157½	168½	180	236½
43	4 10 11	66	77	88	99	110	121	132	143	154	165	176	231
44	4 13 0	64½	75½	86	96½	107½	118½	129	139½	150½	161½	172	225½
45	4 15 3	63	73½	84	94½	105	115½	126	136½	147	157½	168	220½
46	4 17 7	61½	71½	82	92½	102½	112½	123	133½	143½	153½	164	215½
47	5 0 0	60	70	80	90	100	110	120	130	140	150	160	210
48	5 2 3	57	68½	78	88½	98	108½	118	128½	138	148½	158	204½
49	5 11 1	54	63	72	81	90	99	108	117	126	135	144	199
50	5 17 8	51	60½	68	76½	85	93½	102	110½	119	127½	136	193½
51	6 0 0	50	58½	66½	75	83½	91½	100	108½	116½	125	133½	188
52	6 5 0	48	56	64	72	80	88	96	104	112	120	128	183
53	6 13 4	45	54½	60	67½	75	82½	90	97½	105	112½	120	177½
54	7 10 0	40	46½	53½	60	68½	74	80	86½	93	100	106½	140
55	8 0 0	37½	43	50	56½	62	68½	75	81½	87½	93½	100	131½
56	8 6 8	36	42	48	54	60	66	72	78	84	90	96	126
57	10 0 0	30	33	40	45	50	55	60	65	70	75	80	115

highest price of 3 per cent. stock was in 1737, when it reached 107, the 1st of September 1797, when, owing to the mutiny in the fleet, the failure of an attempt to negotiate with the French Republic, and other circumstances, it fell to 75. Since 1820, it has been rarely above 93 or below 75.

PLANS FOR THE REDUCTION OF THE PUBLIC DEBT, &c.

1. A scheme for the gradual extinction of the National Debt, by the establishment of a sinking fund, was projected, but only partially applied, by Sir Robert Walpole in 1716 (3 Geo. I. c. 27). It served, however, in some respects, as the model of the plan of the celebrated sinking fund, suggested by Dr Price, and brought forward by Mr Pitt in March 1786 (26 Geo. III. c. 31), according to which it was proposed to raise and apply (through the medium of certain commissioners) one million sterling per annum, regularly and progressively to the purchase of stock, the interest accruing thereon being applied in like manner, so that the whole would operate in a progressive accelerated ratio at compound interest. Other sums were rendered accessory to the scheme, and at the expiry of 28 years it was calculated that the fund would include a yearly income of four millions, a part of which might then be applied towards the relief of the public. Had this sinking fund been always confined to the legitimate end first proposed, there could not have been any doubt with regard to its benefits. But its operation was continued and enlarged after the commencement of the war of 1793, during periods when no surplus revenue existed, and when the sums devoted to it had to be borrowed for the purpose at a high rate of interest. In this way every addition to the sinking fund was cancelled by a corresponding addition to the debt, and the burden of an expensive establishment of officers and clerks was maintained for no beneficial purpose imaginable. This, however, was the least part of the evil. It is well known that the price of the public stocks has a tendency to fall at the period of every new creation of debt, and that the degree of such fall is influenced by the amount of new stock which it is desired to create: while at intervening periods the tendency is of an opposite character, so that the redemption of any portion of debt will not be effected on terms so low as the minister has accepted at the period of its creation. "The average rate," says Mr Porter, "at which 3 per cent. stock was created between 1753 and 1801, was £57, 7s. 6d. of money for £100 stock, and the average market-price during that period was £61, 17s. 6d. for £100 stock. The loss to the public upon the additional sum borrowed, in order that it might be redeemed during that period, which was £49,635,531, amounted to 4½ per cent., or £2,234,500. Between 1801 and the termination of the war, the average price at which loans were contracted was £50, 7s. 6d. per £100 stock, and the average market price during that time was £62, 17s. 6d. per £100. The loss was therefore 2½ per cent. upon the sum redeemed during that time, £176,173,240, or £4,404,331, making together an amount of £6,638,831 absolutely lost to the public by these operations. This amount, reckoned at the average price of the various loans, is equivalent to a capital of more than eleven millions of 3 per cent. stock, with which the country is now additionally burdened through the measure of borrowing in a depressed market more money than was wanted, in order to its being repaid when the market for public securities was certain to be higher." (*Progress of the Nation*, sec. 4, c. 1, p. 254.)

The fallacy of borrowing larger sums than were wanted, and paying in consequence more dearly for the loan of what was actually required, in order to accumulate the surplus into a fund for buying up the debt at a higher price than that at which it was contracted, appears now sufficiently obvious. The Sinking Fund Scheme, however, was presented in such a flattering point of view, that it long deluded the public, and the prospect which it enabled the minister to hold out of the speedy redemption of the debt, had the effect of reconciling the people to the imposition of a higher amount of taxes than they would otherwise have borne. Its absurdity was first satisfactorily exposed in 1812 by Dr Hamilton, who proved that "the excess of revenue above expenditure is the only real sinking fund by which public debt can be discharged. The increase of the revenue, and the diminution of expense, are the only means by which this sinking fund can be enlarged, and its operations rendered more effectual: and all schemes for discharging the national debt, by sinking funds operating by compound interest, or in any other manner, unless so far as they are founded upon this principle, are illusory."

Dr Hamilton's exposition was not immediately successful; for although, on the return of peace in 1815, it was found impossible, exhausted as the nation then was by the stupendous efforts it had made during the war, to continue the collection of the taxes required for maintaining the integrity of the sinking fund, yet for some years a semblance of this was kept up by means of various expedients, and it was not until the passing of the act 10 Geo. IV. c. 27, that the system was entirely abandoned. By that act it was provided, that, from the 5th of July 1820, there

to be issued out of the consolidated fund only such annual sum as shall appear to be the actual surplus revenue of the United Kingdom, to be applied towards the redemption of the national debt, by the commissioners appointed for that purpose; and by, the Speaker of the House of Commons, the Chancellor of Exchequer, the Clerk of the Rolls, the Accountant-general of the Court of Chancery, and the Governor and Deputy-governor of the Bank of England, for the time being; and the Lords of the Treasury shall, every quarter, make up accounts of the revenue for the four preceding quarters, and one-fourth of the annual sum to be issued to the said commissioners, who are to publish, in the London Gazette, the sum which will be so applicable in the ensuing quarter. It was also ordered that all stock and annuities standing in their names on 5th July 1829 should be cancelled, and the dividends cease to be paid; and that in future all stock purchased by them should be cancelled from the day of transfer.

The conversion of the perpetual annuities payable on the capital of the funded debt into annuities payable only for a limited term of years, already explained, is indirectly as a sinking fund; and so long as it proceeds upon equitable principles, and as the increased annual charge which it occasions is defrayed from a portion of the revenue, and is not carried so far as to interfere with the onward progress of the country through excessive taxation, it appears to be liable to little objection. Considerable relief may be expected from this mode of redemption in the course of the next twenty years, particularly after 1860, when the long annuities expire. It is objected by some that the principle of this system is subversive of the spirit of frugality, by encouraging individuals to consume their whole property during their lifetime, and as such, improper for the adoption of government, whose duty ought rather to be to diffuse a spirit of forethought, and induce people to provide for others as well as themselves. But the terms upon which annuities are granted by government are not such as to give an increased stimulus to this mode of investment. Annuities are, and have always been, granted by insurance companies, and in every large community there must be numerous persons to whom the conversion of their capital into an annuity is a matter less of choice than of necessity.

During the last war, it is now said, should be funded in stock bearing a rate of interest equivalent to the market-rate when they were contracted for, rather than in stock bearing a low rate of interest with a corresponding increase of capital, in order that advantage may be taken of the fall of interest at the return of peace. This opinion was advocated by Dr Price and Dr Hamilton; and since we expect to see the beneficial effects of the late reductions of interest, it has been again carried forward by the *Edinburgh Review* (No. xciii., Jan. 1828), by Mr McCulloch in his "Statistics of the British Empire" and other writings, and by Mr Porter in his "Progress of the Nation." In the last-mentioned work (sec. 4, c. 2, p. 294) it is stated that if at the expense of a small present sacrifice of $\frac{1}{4}$ per cent. interest, the loans of the last wars had been contracted in 5 per cent. annuities, and if the Government had so far taken advantage of the subsequent lowering of the rate of interest as to procure their conversion into annuities of $3\frac{1}{2}$ per cent., the unredeemed debt at the present time would, in all probability, not have exceeded six millions, while the annual charge upon the same would have been twenty-five millions.

Of the loans during the last war were raised in a very improvident manner. There can be little doubt that had the object above contended for been steadily in view by the government, our present burdens would have been much less; but whether to the extent supposed by Mr Porter, it is not now easy to inquire. It would appear, however, that the comparative eligibility of funding in a stock bearing a high or low rate of interest must depend to a considerable degree on their prices in the market. "At all times," says Ricardo, "the 5 per cents bear a very low relative price to the 3 per cents. The former, is one disadvantage to be put against another, and it must depend on the degree in which the prices of the 3 per cents and 5 per cents differ, whether it be more desirable to raise the loan in the one or in the other. We have no doubt, that during many periods of the war there would have been a decided advantage in making the loan in 5 per cent. stock in preference to 3 per cent. The market in 5 per cent. stock, too, is limited; a sale cannot be forced in without causing a considerable fall,—a circumstance known to the contractors, against which they would naturally take some security in the price which they would obtain for a large loan if in that stock." (*Ency. Brit.*, art. *Funding System*, vol. 253.)

The fur-trade is a branch of the commerce of the United States, and the nation of which it is a part has a great interest in its success. It is a branch of commerce which has been the source of great wealth to the nation, and it is a branch of commerce which has been the source of great wealth to the nation. It is a branch of commerce which has been the source of great wealth to the nation, and it is a branch of commerce which has been the source of great wealth to the nation.

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On the part of the United States, the fur-trade is chiefly prosecuted by the "North American Fur Company," whose principal establishment is at Michillimackinac, where it receives furs from the post depending on that station, and from those on the Mississippi, Missouri, and Yellowstone rivers, and the great range of country extending thence to the Rocky Mountains. This Company penetrates into the bottom of these distant regions by means of steam-boats. Of other associations in the United States, the most celebrated are Ashley's Company from St. Louis, and Captain Bonneville's, formed at New York in 1831; which last has pushed its enterprise into tracts between the Rocky Mountains and the coasts of Monterey and Upper California. Indeed the whole of the districts from the Mississippi to the Pacific, and from the Arctic Sea to the Gulf of Mexico, are now traversed in every direction by the hunter. Almost all the American furs which do not belong to the Hudson's Bay Company find their way to New York, where they are either distributed for home consumption or exported chiefly to London.

The fur-trade is also extensively pursued by the Russians in the N. of Asia and the N. W. coast of America. Their chief association is the Russian American Company of Moscow ; and the principal markets for their furs are the fairs of Kiachta, Novgorod, and Leipsic.

Furs may be divided into two distinct classes ; those employed for clothing or ornamental purposes, and those used in felting or hat-making. Of the former, the principal are the gray, silver, and black fox, the ermine, sable, chinchilla, fitchet, bear, martin, mink, lynx, and wolf ; of the latter, the beaver, nutria, otter, hare, rabbit, and racoon ; but several of the skins used for felting purposes are manufactured for dress. Furs, and especially those used for felting, are further distinguished into *seasoned* and *unseasoned* skins ; the former being those which are taken off the animal in winter when the fur is at its full growth, and in the highest state of perfection as to fineness ; the latter, those obtained in spring, summer, and autumn, when it is short, coarse, and hairy, and generally not worth more than a third of the value of that found on the best seasoned skins.

The more valuable and scarce furs are chiefly procured in Asiatic Russia. The "precious ermine" and sable, both of the genus *mustela* (weasel), are obtained of the best quality only in the cold regions of that country and the N. of Europe. The snowy whiteness of the former, and the rich dark shades of the latter, with the great depth, and the peculiar, almost flowing softness of their skins and fur, have combined to give them a preference in all ages and countries, and they still maintain the same relative estimate in regard to other furs, as when they marked the rank of the crusader, and were emblazoned in heraldry. The martin resembles the sable ; the best are from Kamtschatka and N. Asia, but in every pack of American skins, some are to be found of a beautiful shade, and a deep rich olive colour. Next to these in value are the sea-otter, the mink, and the fiery fox. The sea-otter, procured in Behring's Island, Kamtschatka, and opposite coasts of America, is an exceedingly fine, soft, close fur, jet black in winter, with a silken gloss ; the fur of the young animal being, however, of a beautiful brown colour. The sea-otter is confined to the N. W. coast of America, and the number is now so much reduced as to render the chase an object of little consequence. The land-otter abounds on the borders of all the interior lakes of that country ; but its skin, chiefly used for collars and linings, is comparatively of small value. The mink is a diminutive species of otter. The fiery fox, the bright red of Asia, more brilliantly coloured and finer than any other of the genus, is highly esteemed, and is the standard of value on the north-eastern coast of that quarter of the world. Of the American fox there are many varieties, as the black, red, gray, white, cross, silver, and dun coloured. The silver fox is a rare animal, a native of the woody district below the falls of the Columbia river. Bear skins of various kinds and colours are procured in N. America, and are much used in the northern countries of Europe both for warmth and ornament, particularly on the outside of carriages. The hide of the wolf is considered peculiarly fitted for knapsacks and similar purposes, for which it is much employed in Germany.

The beaver's fur is an article of great importance, owing to its abundance (though this is now much less than formerly) and the large and sure demand for it in the hat manufacture. It appears to be indigenous in all the northern parts of America, though in the settled countries and in even those open to private hunters, it is now nearly exterminated. The skins are divided into *parchment*, or those of the old animals, and *cuab*, or those of the young ones. The latter are the finest, but from their smaller size are not of equal value with the others, and they have become comparatively rare, as the capture of the young animals is now prohibited by the company. The musquash, a species of diminutive beaver, is found principally in the vicinity of Hudson's Bay, and the vast number taken renders its skin an article of importance ; the fur is used in the manufacture of inferior hats. Nutria skins have become of considerable importance only within the last twenty years ; they are imported from S. America, principally from La Plata. Of the other foreign furs it is unnecessary to speak, as a description of all those of much interest will be found under their respective heads. The only British ones that need be noticed are those of the rabbit and the hare, which are both extensively used for felting ; the hair of the silver-tipped rabbit of Lincolnshire, however, is highly esteemed for dress,—a purpose for which it is exported both to Russia and China.

Furs are not only used and valued in those countries where they are needed for defence against the severity of the seasons, but also among the inhabitants of milder climates, who, being of Tartar or Slavonian descent, are said to inherit an attachment to that species of clothing. Such are the inhabitants of Poland, Southern

Russia, China, Persia, Turkey, and many of the nations of the middle and western parts of Europe. In Syria, Egypt, Bocharia, and Independent Tartary, there is also a great consumption where there exists no physical necessity.

The principal emporium of the fur-trade is London, where the vessels of the Hudson's Bay Company arrive about the end of September; and the public sales afterwards held by them are attended by many foreign merchants, whose purchases are chiefly sent to the great fairs of Leipzig, whence they are distributed through various parts of the Continent. The following is an account of the furs exposed for sale by the Company in December of the three years 1835, 1836, and 1837:—

Skins of	1835.	1836.	1837.	Skins of	1835.	1836.	1837.
Beaver ..	78,906	66,063	82,927	Fisher	2,479	1,267	6,114
Martin ..	61,006	32,749	136,198	Lynx	6,800	2,782	21,867
Otter ..	13,467	6,428	13,934	Mink	17,809	12,230	37,200
Fox, Silver and				Wolf	3,722	267	7,000
Cross ..	910	471	2,147	Wolverene	1,863	143	1,000
Other Foxes ..	8,704	1,824	22,861	Badger	688	301	704
Musquash ..	1,111,604	100,300	830,549	Swan	4,703	12	6,000
Bear ..	4,127	1,715	7,363	Raccoon	229	20	200

The value of furs, especially of those which are articles of luxury and fashion, varies in an extraordinary manner, in consequence of the great inequality of the supply and the demand; and the fluctuations in price in the course of a single year often exceed 300 per cent. The following has been obligingly furnished to the publishers of this work by the Hudson's Bay Company, as the average price of each description in the sales of 1836, which are considered as affording a good general idea of the course of the trade:—

£ s. d.			£ s. d.			£ s. d.					
Beaver, parchment, per skin.	1	12	6	Fox, Silver	10	0	0	Fisher	0	14	9
.. Cub.	0	12	3	.. Cross	1	12	6	Lynx	1	0	0
.. Cast, per lb.	0	12	0	.. Red	0	10	0	Mink	0	8	0
Martin, per skin	0	13	6	.. White	0	9	0	Wolf	0	8	4
Other, per skin	0	10	0	.. Ek	0	9	0	Wolverene	0	8	0
.. Land	1	3	6	.. Musquash	0	0	6	Swan	0	0	6
				Bear	0	18	6	Raccoon	0	2	0

The following is an account of the chief imports of fur into the United Kingdom in 1839:—

	British America.	United States.	La Plata States.	North of Europe.
Bear ..	N. 4 313	4,800	....	195
Beaver ..	37 827	10,876	....	20
Fitch ..			....	102,461
Martin ..	74,046	26,721	....	127,327
Mink ..	26,976	82,211	....	3,600
Musquash ..	594,924	211,156	....	6,634
Nutria ..			214,334	9 6
Otter ..	14,800	371	....	200

FUSTIAN, a coarse thick cotton stuff, generally tweeled, and of a dark colour. The most common kind is named pillow; but the fabrics called barragan, corduroy, velveret, velveteen, beaverteen, and thickset, are also fustians. These cloths are made in Lancashire and Yorkshire.

FUSTIC (Fr. *Bois Jaune*. Ger. *Gelbholz*. Sp. *Palo del Brasilamarillo*), a dyewood, the produce of a large tree, a species of mulberry (*Morus tinctoria*), a native of tropical America and the West Indies; the best being that of Cuba. It is of a sulphur colour with orange veins, hard and strong, and is imported in the form of logs or large blocks. The yellow dye which it affords, though extremely durable when in combination with an aluminous base, yet, being dull and muddy, is chiefly employed in compound colours. About 10,000 tons of the timber are annually imported, of which upwards of four fifths are entered for home consumption. Nearly one-half of the importations are from Colombia; the remainder chiefly from Jamaica, Cuba, and the United States.

Zante Fustic, or *Fuslet*, vulgarly called *young fustic*, in distinction from the preceding, which is sometimes termed *old fustic*, is the produce of the Venetian sumach (*Rhus cotinus*), a shrub growing principally in Italy, the S. of France, and Greece. Both the root and the stem afford a fugitive yellow colour; but it is seldom used alone, being chiefly employed as an accessory to heighten cochineal and other dyes, and to give them a yellowish tinge. This wood is imported in small quantities from Patras in the Morea, the Ionian Islands, and other places.

G.

ANGAL (Fr. *Galanga*. Ger. *Galgant*), a brown tuberosc root, with a faint smell and pungent taste, like a mixture of pepper and ginger. There are galangal major (*Alpinia Galanga*) and galangal minor, of which the former is the strongest in all its qualities, and by far the more valuable. It may be distinguished by its colour on the outside being browner, and in the inside reddish, the greater root is brownish on the outside, of a dirty white within, and with rings about one-fourth of an inch distant. They are produced in Sumatra, and Java, and used in medicine.

ANUM (Arab. *Barsud*. Fr. *Galbanum*. Ger. *Mutterharz*. Pers. *Beer*), medicinal gum-resin, produced by a perennial plant (*Bubon-Galbanum*) native to Africa. It has a peculiar strong odour, not unlike that of turpentine, and a nauseous bitter taste. Sp. gr. 1.212. The best occurs in pale-coloured tears of the size of a hazel-nut, composed of clear white tears. A more common kind is in agglutinated masses, consisting of yellowish or reddish and clear tears, mixed with seeds and leaves. When blackish, of a weak smell, soft, and with sand and other impurities, it is bad. It is exported from Syria, Persia, and the Cape of Good Hope.

LEAD (Fr. *Plomb sulfuré*. Ger. *Bleiglanz*), or *lead-glance*, is a native sulphide of lead, found at Leadhills in Lanarkshire, and other places. It is the ore of that metal, and nearly all the lead of commerce is obtained from it. It usually occurs in heavy, shining, black, or blueish lead-coloured cubical crystals. It is used in the form of powder, called *Alquifour*, for glazing pottery.

GALEON, a name formerly given to the vessels of war used by the Spaniards and Portuguese, and in later times to those large ships in which the former carried treasure from their American colonies.

GALLEY, a long, narrow, flat-built vessel, with one deck, propelled by sails, which was much used, especially by the Italians, until of late years, when superseded by the steam-boat. It carried two masts with lateen sails, drawing but little water, was well adapted for coast navigation; while, by its oars, it had an advantage over sailing vessels in the dead calms so common in the Mediterranean.

GALLIC ACID, discovered by Scheele in 1786, exists in most astringent vegetables, especially in gall-nuts. Its constituents are carbon, oxygen, and hydrogen.

It is a solid, in taste slightly sour and astringent, inodorous, crystallizes in white silky needles. In boiling water it is freely soluble, but it requires a large quantity of cold water for solution; it dissolves also in ether and alcohol. In the preparation of tincture of galls it is much employed as a chemical reagent. With iron it combines to form salts, called *gallates*.

GALLIOT, a name given to a Dutch vessel, of which the bow and stern are rounded, and bluff, and the bottom flat, so as to draw little water; and having a lee-board, suspended by an iron bolt, a flat piece of wood, called a lee-board, when required, is let down on the lee-side of the vessel, to prevent her from drifting fast to leeward as she would otherwise do. The galliot has two masts; the foremast, the tallest, is rigged as a sloop; while the aftermast carries a small spanker sail, and the mizzen. This vessel is chiefly adapted for the shallows off the coast of the Netherlands.

GALLON, the unit of the imperial measures of capacity, contains 10 lbs. avoirdupois, or 277.274 cubic inches of distilled water. It contains almost exactly one-fourth more than the former English wine gallon, or 5 Imp. gallons = 6 wine gallons, or also 60 Imp. gallons = 59 old ale gallons nearly. [MEASURES AND WEIGHTS.]

GALLOON, a narrow thick ferret or lace, commonly made of mohair or silk; sometimes of wool, thread, gold, or silver. It is used as edging, and is largely employed in binding hats. The finer kind is manufactured at Coventry, and the coarser at Spitalfields.

GALL (Fr. *Noix de Galle*. Ger. *Gallapfel*. It. *Galle*. Sp. *Agallas*), a kind of vegetable wens, from one-fourth of an inch to an inch in diameter, produced on various species of oak trees, by the perforation of insects for the deposition of their eggs. As the nest increases in size, together with the larva enclosed in it, which, on attaining maturity, eats its way out, and hence gall-nuts are generally found empty in them. They are in perfection when they have acquired their full size.

the nuts are first gathered, and the insect has plucked them; after which, they are dried in the sun, and then the part of the nut is weighed. The nuts first gathered are the best, and are of a fine brown colour. Later ones are very inferior in value, and are of a dark brown colour. They are sometimes smooth, sometimes covered with spines, of a dark brown colour. Those which are heavy and not too much dried are the best. They are almost invariably found in a single state. They are produced abundantly throughout Asia Minor from a small number of the most fertile districts, and the best are those of Aleppo or Moab. The nuts are of the size of a nutmeg, and mostly of a bluish or grayish colour, with heavy, scaly, and sometimes small tubercles on their surface. The Eastern variety is of a dark brownish green, the light, easily broken, and much less valuable. They contain a strong acrid or pungent matter or tannin, and are used in the preparation of ink, and in medicine. They are imported in bags weighing from 2 to 3 cwt. each.

GAMBAGE (Fr. *Gomme Gomme*, Ger. *Gummigutt*), a gum-resin, the product of a tree, the name of which is doubtful. It is inodorous and tasteless. The best, the pipe-gamboge, is in rolls of a cylindrical shape, having a lobed fracture, of a deep orange yellow, and a very resinous taste. It also occurs in cakes, fracture uneven, and of a deep orange yellow, and is more resinous. The larger cakes, which are of a dark brown colour, should be rejected. Genuine gamboge comes from Sumatra, and is imported to this country generally by the way of Singapore or Malacca. It is used as a pigment in water-colours, and as an ingredient in some of the best of the most violent cathartics.

GAMBAGE is the name and refuse of spices and drugs.

GAMBAGE is the name of the waste of any commodity.

GARLIC is a perennial plant. It is native of Sicily, and cultivated in many parts of the world. It consists of pungent acrimonious bulbs, of a strong odour, and is used as a condiment, and is an ingredient in curries: it is also used in medicine.

GARNET (Fr. *Garnet*, of the colour of pomegranate seeds) is a precious stone, of which there are several kinds. The most valuable is the *Almandine*, a deep red garnet, or carbuncle, a hexagonal crystallized mineral, of various shades of red, with sometimes a tinge of yellow or blue, or a smoky aspect. It is commonly translucent, but transparent. Principal localities, Ceylon, Pegu, and Greenland. *Pyrope* garnet differs from the preceding in being commonly opaque or only translucent, and of a reddish, yellowish, greenish, or blackish brown. It is found in Sweden, and other countries. *Pyrope* is a deep blood-red variety, in roughish and angular masses, completely transparent: chief localities, Germany and Ceylon. Others are distinguished by different names: as, *pyrope*, which is a black variety; *grossular*, of a light olive-green colour; *apophane*, usually of a deep brown or orange-brown, and opaque; *caragocesian garnet*, of a deep hyacinth or brownish-red; *melanite*, usually quite black and opaque; *colophonite*, of a greenish, yellowish-brown, or orange-red colour; *achroite*, of a grayish, dingy yellow, or reddish hue, and opaque; and *topazite*, which is of a topaz-yellow.

GAS-LIGHT. Gaseous compounds fitted for the purposes of illumination are abundantly produced during the decomposition or destructive distillation of different inflammable substances. These are decomposed in establishments formed for the purpose, and the pure inflammable gases are conducted through pipes to the situations where they are required, and where their consumption may be regulated to the greatest nicety according to circumstances. Coal, oil, and resin are the substances which have been employed in this manufacture.

Coal gas was the kind first used, and it is still that which is chiefly consumed. The person who first applied it to useful purposes was Mr William Murdoch, of Soho, who, in 1792, employed it for the purpose of lighting his house and offices, then at Redruth in Cornwall. Little further appears to have been done for several years towards making the discovery public. Betwixt 1800 and 1805, however, gas-lights were introduced into several private manufactories, and also exhibited in Paris and London. In 1814, they came into common use in London; in 1818, in Edinburgh; and they are now generally employed in all the large towns in this country, and in many on the Continent.

Coal gas is generated from coal subjected to distillation in iron cylinders or retorts at a red heat. It is contaminated at first with tar, ammoniacal and other vapours, from which it is freed in a condensing vessel, and also with more or less sulphuretted hydrogen and carbonic acid gases, from which it is separated by

ime, in vessels called *purifiers*. The carburetted hydrogen gas, sufficient for use, is then transmitted into gasometers, whence the pipes issue to the supply of houses and other purposes. A quantity of coke is left in the retort, with the tar, ammoniacal liquor, and other refuse matter, is applied to various uses in the arts.

Purification of coal gas is of great importance, because, if the sulphuretted gas is allowed to remain, it is not only highly noxious during combustion, but the escape of the gas escaping it is no less an evil. It is fetid and unwholesome, and causes the immediate tarnishing of silver and other metals: fortunately its impurity is readily detected by a piece of paper moistened with a solution of sugar of lime, and no gas should be burned which blackens it. The specific gravity of coal gas varies from .450 to .650.

The best suited for distillation is that which contains most bitumen and hydrogen; and hence the superior purity of the gas procured from the Scotch parrot coal, owing to the comparatively small quantity of sulphur it contains, and the more general use of this light in dwelling-houses in Scotland than in England. A chaldron of coals should yield about 12,000 cubical feet of gas, of which each argand burner, equal to six wax candles, may be used as consuming from four to five cubical feet per hour.

Gas is procured abundantly by the decomposition of oil trickled into a retort half-filled with coke or brick. It contains no sulphuretted hydrogen, and requires no purification, and is much richer in carburetted hydrogen than coal gas. At 900°. Mr Brande states that "a gallon of whale oil affords about 100 feet of gas, of an average specific gravity of .900, and an argand burner, burning ten candles, consumes a cubical foot and a half per hour." Less of it is required than of coal gas for any given quantity of light, and the atmosphere is less heated and contaminated by its combustion; but notwithstanding these advantages, the great expense has led nearly to the entire disuse of this kind of gas.

Gas, equal in quality to that from oil, is procured in abundance by the treatment of resin, and considerable hopes were some years ago entertained that it would come into general use; but later experiments seem to prove that in this country at least it cannot in point of economy compete with that procured from coal.

The economy of gas light is variously estimated. According to Mr Brande, a ton of coals at 25s. should afford 1½ chaldron of coke at 13s. . . . £0 16 3
 100 lbs of tar, ammoniacal liquor, and other products at 1d. . . . 0 2 0
 1000 cubic feet of gas at 10s. per 1000 C. F. . . . 6 0 0

£6 18 3

The cost of a lamp fed by gas, and giving the light of 7 candles, will be 3d. per hour, of Argand's lamp with spermaceti oil, 3d.; of mould candles, 3½d.; and of tallow, 1s. 2d. per hour." Dr Ure, in estimating the comparative economy of the different kinds of light, and assuming the illuminating power from wax to be 100, states that from tallow to be 28.6; oil, 14.3; coal gas, 4.76; thus the cost of wax about three and a half times that of tallow, and tallow more than four times that of coal gas.

Light from gas, however, besides being procured at a smaller expense, is generally more convenient than that yielded by other substances in the mode of its application, as it may be reduced in an instant from the greatest splendour to the least degree of illumination by the simple adjustment of the stop-cock. Its use in the buildings of all kinds, whether for industrial or domestic purposes, is generally well known and appreciated. Still more conspicuous, perhaps, is its use as a street light; and there can be no doubt that, from its application to the illumination of our large towns, we have derived great additional security against the commission of crimes.

At present there are 18 public gas establishments, and 12 companies, and the value of the works and apparatus is estimated at £3,000,000. [Stocks.]

(Fr. *Gaze*), a very light and transparent silken fabric, supposed to have been first made in Gaza, a city of Palestine, from which it derives its name. It is now made chiefly at Paisley; but it is inferior to that manufactured in France. [SILK MANUFACTURE.]

GAZETTE, a term applied to newspapers in several parts of the Continent. It is derived from *gasetta*, the name of a small Venetian coin, the usual value of which was first published in Italy. In this country the term is chiefly used in

the Austrian provinces. The domestic animals do not differ materially from those of the surrounding countries. The Merino breed of sheep has been introduced into Saxony and other parts where it has succeeded so well that, after supplying a great internal demand, immense quantities of wool are now exported to Britain and other places, of a quality so fine that the wool trade has been nearly extinguished.

Saxony is rich in minerals, particularly the Hartz mountains and Erzgebirge. According to the authority (*Hawkins' Germany*), the principal are, silver, 1,23,000 marks annually, chiefly in the Erzgebirge and in the Hartz; gold, 182 marks; iron, 3,000,000 cwt.; copper, 100,000 cwt.; tin, 8,000 cwt.; lead, 200,000 cwt.; quicksilver, 61,000 cwt., in Ilmenau and Zweibrücken; cobalt, 16,000 cwt.; zinc, sulphur, coal, marble, alabaster, gypsum, alum; antimony, saltpetre, lime, asbestos, slate; rolling-mill, sand, and pumice stones; granite, basalt, agate, amethysts, granite, porphyry, precious stones; and great quantities of rock salt—8,000,000 cwt. are produced by 76 salt-works now in operation.

The industrious spirit of the Germans has urged them forward, notwithstanding numerous disadvantages, to considerable progress in manufactures. The principal are those of linen, in Silesia, Westphalia; of woollen goods, on the Lower Rhine, in Saxony, Silesia, and Brandenburg; silk, leather, cotton goods, and lace, in the Erzgebirge; of tapestry, paper, and glass, in Saxony and Silesia; of mirrors, near Nuremberg; of china, at Berlin, Meissen, and Vienna; of iron-ware, in various places; of jewellery, at Berlin and Augsburg; of iron-ware, in Westphalia and the Rhinish countries; of firearms and sword-blades, at Spandau, Potsdam, and some other places; of cannon, at several capitals; of gunpowder, tobacco, artificial flowers, straw hats, and other instruments, beer, brandy, liqueurs, vitriol, and sugar. The Germans are also famous as sugar refiners. The manufactures of cotton were established during the war, in imitation of those of Britain: but their inferior machinery, and the scarcity of fuel, enable them to produce in this manufacture and most of the others only under heavy protecting duties. The manufactures of Saxony, however, and its thread, lace, linen, paper, and porcelain, are of superior

quality and energy of the Germans has long rendered their book-trade a business of great importance; and of late years, owing to the continuance of peace and the growing demand in foreign countries for German books, this branch has greatly increased, and is now in some respects unequalled in the world. Before 1814, the annual amount of works published was about 2000; in 1815 the number was 3197; in 1827 5108; in 1834, 6074. The publications are announced in catalogues circulated at the fairs held at Leipzig, at Easter and Michaelmas, which are attended by German booksellers, and by many from the adjoining countries. The catalogue of the year 1837 contained 4333 new books and pamphlets, or new editions. Of these 3924 were published in Germany (including Switzerland, Hungary, and the part of Prussia not belonging to the German Confederation), and were produced by 561 publishers. The works were contributed from the several states in the following proportions: Austria, 226; Prussia, 1151; Bavaria, 469; Saxony, 300, including 556 for Leipzig alone; Wurtemberg, 331; Baden, 156; Hamburg, 123; Bremen, 106; other states, 693. The number of booksellers and publishers is at present estimated at 1000; and, according to Dr Bowring, the number of persons engaged in the literary business in Germany is reported to be about 18,000, independently of 4000 translators from foreign languages. This immense production is attributed to the general diffusion of education; to the demand for public functionaries and professional persons by the subdivision of the country into many different states; and, lastly, to the industry of the educated classes being directed into a single channel by their want of political liberty. The result, however, is still extraordinary, especially when it is considered that every work or journal, before it can be printed, must be sanctioned by a public censor, and that no general copyright law exists among them. In some states literary property is protected; in Prussia, by a law passed in 1838, it is secured to authors for their life, and to their representatives for 30 years afterwards. In other states,—as for instance in Wurtemberg and in Austria, any work may be pirated which has not been published with the special protection of the respective governments. Before the publisher could undertake an edition of Goethe's works, which appeared about 12 years ago, he was obliged to solicit a licence against piracy from each of the thirty-eight sovereignties; and it was granted to him in each as a privilege; and this is the only work which has appeared with the "privilege of protection" from the whole German Confederacy.

The internal commerce of Germany is considerable, and is facilitated by means of its inland navigation, in which it is more favoured by nature than any other European country. Of the Rhine runs upwards of 700 miles, throughout the greater part of which it continues navigable; the Elbe, also a navigable stream, extends 575 miles; there are likewise the Oder, the Havel, the Main, and Neckar; and the mighty Danube, which, though scarcely yet rendered navigable, appears destined to surpass all the others in political importance: the total number of navigable rivers, including tributary streams, are stated by Balbi at sixty. The canals are not less numerous; the principal are the Eider canal; the Plauen canal, between the Elbe and the Havel; the Havel canal; the Mullrose canal, between the Spree and the Oder; the Bavarian canal, between the Isar and the Danube; the Pappenburg canals; the canal from Vienna to beyond the Danube; and the canal which unites the Stecknitz with the Trave at Lubeck. Railroads are rapidly extended in Germany, though their extension depends on the will of the governments, which always correspond with the interests of individuals. Many of the great towns are already connected by this means; but the whole of Central Germany, and particularly the wealthy land of Prussia, is still separated from the sea and Belgium by a considerable space between Frankfort and the North Sea. A railroad connecting these cities is however in contemplation, and when finished will complete the junction, by this mode of conveyance, of Berlin, Dresden, and Brussels. From this junction several important lines would branch off, connecting Bavaria and the duchies of Schleswig and Mecklenburg on one side with the North Sea by Cassel and Bremen, and on the other with the Rhine and the Belgian railroads.

The maritime commerce of Germany is comparatively of limited amount, owing to its small sea-coast, which embraces only about 630 British miles, namely, 330 on the Baltic, 140 on the North Sea, and 160 on the Adriatic. Several towns, however, on the shores and the principal rivers enjoy a very extensive trade. Of these, the chief on the Baltic are Stettin, Stralsund,

Rostock, Wismar, and Lübeck; on the North Sea, Hamburg, Altona, Bremen, and Trieste on the Adriatic. The principal exports are wool, linen, wine, corn, wood salted provisions, thread, iron, steel, Nuremberg wares, quicksilver and cinnabar, cattle, fruit, salt, potash, porcelain, and earthenware, wax, leather, lead, wool goods, rags, bones, quills, skins, alum, lead, and vitriol. The chief imports are colonial produce, mostly at Hamburg and Trieste; British manufactures, principal yarns, with cotton, woollen, and metal goods; wine, tobacco, southern fruits, flaxseed. The chief port for emigration from Germany is Bremen.

The manufacturing and commercial prosperity of Germany was formerly much hampered by the partition of its territory among so many separate communities, which not only created many factitious interests and conflicting systems of internal regulation, but prevented necessary unity of effort and combination of resources. Of late years, however, this has been in a great measure removed by the commercial union or league, first formed under the auspices of Prussia, and which has been since gradually joined by most states. The professed object of this combination is to establish an entire freedom of the German states, and to subject foreign trade to such restrictions only as the national manufactures, or financial circumstances, may render necessary. Under the GERMAN COMMERCIAL UNION, a detailed account is given of this celebrated league, whence, viewed in connexion with the present state and prospects of the trade of Germany, information will be found in the articles devoted to the principal states, and the republics, HAMBURG, BREMEN, FRANKFORT, and LÜBECK.

MEASURES, WEIGHTS, AND MONIES.

The monies, weights, and measures of the different states are described under their respective heads; but an opportunity will be taken here of explaining some general usages, particularly those which have arisen out of the German federative system.

THE MEASURES of capacity and length vary, but the divisions of the latter are generally the same, namely, the ruthe = 2 clasters, 6 ells, 12 feet, or 144 inches; the Rhineland or land-surveyor's foot = 12.36 Imp. inches.

The geographical mile = 8101 Imp. yards, or 4.70 Imp. miles; the long mile = 10,126 Imp. yards; the short mile = 6859 Imp. yards.

The Rhineland morgen = 10,185 Imp. square yards, or 4½ Rhineland morgens = 10 Imp. acres nearly.

The commercial pound contains 2 marks, 16 ounces, 32 loths, 128 quintins, 512 pfennings, or 1024 hellers; the apothecaries' pound of 12 ounces, 96 drams, 288 scruples, or 5760 grains = 5527 troy grains; the carat for jewels = 3.171 troy grains.

Gold and silver are weighed by the Cologne mark of 8 ounces, 16 loths, 64 quintins, 256 pfennings, 512 hellers, or 4852 eschen = 3608 troy grains; the fineness of gold is expressed by dividing the mark fine or other weight into 24 carats, each of 12 grains; the fineness of silver, by dividing the mark fine into 16 loths, each of 18 grains; in both cases the mark fine containing 288 grains.

MONEY.—The integer of account (except in the few places where the Lübeck currency is used), is either the florin (*gulden*), or the dollar (*thaler*), called also the rixdollar, and sometimes the crown. The florin is commonly divided into 60 kreusers, each of 12 pfennings, and the dollar current, or of account (a nominal or fictitious money equal 1½ florin), into 90 kreusers. In North Germany, however, the dollar is in general divided either into 24 good groschen, each of 12 pfennings, or as in Prussia, where the dollar of account is a coin, into 30 silver groschen, each of 12 pfennings. The different standards by which these denominations are valued may be described as follows:—

Leipsic or Constitution Money, introduced in 1690, and which formed the general standard of the empire from 1733 to 1763, was estimated at the rate of 9 rixdollar specie (or *Old Imperial dollars*), 12 rixdollars current, or 18 florins, to the Cologne mark of fine silver, making the value of each of these monies in sterling 4s. 6½d., 3s. 4½d., and 2s. 3d. respectively. The Leipsic rixdollar current is now nearly obsolete, and the coins are comparatively rare.

Convention Money, introduced in 1834, is valued at the rate of 20 florins to the Cologne mark of pure silver, whence it is a *Gulden-fuss* (florin-foot). The florin = 13½ loths, or ½th fine, and its full value is 13½ troy grains. Two florins = 1½ rixdollar specie (or *German rixdollar*) = 48.757d. or 4s. 0½d. Hence 2s. 0½d. nearly, and the rixdollar current (florin), 3s. 0½d. There are likewise ½, and ¼, rixdollar current; also 1 (*kopstuck* or *zwanziger*), and 10 kreuzer. Convention money is in general use in Saxony; in other states its employment is confined principally to the higher branches of business.

Reichsgeld, or 24 *Gulden-fuss*, is valued at the rate of 24 florins to the Cologne silver, whence the florin = 2s. 3½d. 1s. 8½d.; and the rixdollar current 2s. 6½d. These, however, are the valuations of Convention money, higher than in that standard, the florin being estimated in Reichsgeld at 24 florins, and the other denominations in Reichsgeld. Prior to 1838, Reichsgeld was in use in Rhenish-Germany, but is now superseded by the new 24½ florin rate.

9 Constitution florins or current = 10 in Convention money = 12 in R.

The New Crown Standard, in 1838, is valued at the rate of 24½ florins to the Cologne mark of pure silver, whence the florin = 19½d. or about 1s. 8d. This florin, which has been adopted as the integer by the states of Southern and Western Germany, including Baden, Bavaria, Hesse-Darmstadt, Nassau, and the other coins of this standard are the florin, and the crown (*kronenthaler*). There are besides pieces in billon for 10 and 20 kreusers.

The Prussian System is described under the head PRUSSIA. In 1834, the dollar was adopted as the integer of account by the states of North Germany, including Brunswick, and Hesse-Electoral or Hesse-Cassel. These standards consist wholly of silver, which is the general measure of value. A variety of gold coins, however, are in circulation; the principal are the ducat (minted at the Cologne mark 23½ carats fine), worth 10 florins; the gold florin 6s. 11d.; the Bav. 20s. 4d.; and the pistoles termed *Franco* (minted at Carl d'or, August d'or, George d'or, &c., each worth nearly 16 pistoles (minted 35 to the Cologne

les), were all reckoned originally at 5 rixdollars current, but they now are corresponding to the increased value in relation to silver. Several of them have doubles and halves of proper value.

Of foreign coins, the most common are the Dutch gold pieces for 10 and 5 guilders, and the Brabant crown, originally struck by the emperor in the Low Countries, equal about 4s. 6d.

Butter, in Oriental commerce, is clarified butter, made generally from the milk of cows, and is an article of great importance in India, Arabia, and other countries. It will keep fresh for a considerable time, and is commonly sold in bottles made of hide, called dippers, which contain from 10 to 40 each.

GIBRALTAR, an important military and commercial station belonging to Britain, situated on a mountainous promontory on the S. coast of Spain, at the entrance from the Atlantic into the Mediterranean, near the part where the sea between Europe and Africa is narrowest; the mole being in lat. $36^{\circ} 7' N.$ and $21' W.$ It consists of a town and a strongly fortified rock, having battlements upwards of 1000 cannon. Population about 15,000, composed chiefly of Spaniards, Italians, and Jews, besides a garrison of nearly 3500 troops, commanded by a military governor.

The promontory of Gibraltar consists of a vast mass of rock, extremely cavernous, and rising to 1400 feet above the sea. It is about 3 miles in length from N. to S., varies in width from $\frac{1}{2}$ to $\frac{3}{4}$ of a mile, and is joined to the Spanish main by a low sandy isthmus about $1\frac{1}{2}$ miles in length. The rock on the N. side, fronting this isthmus, is perpendicular and wholly inaccessible. The E. and S. sides are also steep and rugged; but on the W. side, fronting the bay, the town is built, the rock declines into the sea. Here, however, the fortifications are such as to render it impregnable. The town, consisting chiefly of one long street, is not neat, and formerly was filthy and dirty, but of late it has been considerably improved in these respects. Provisions are principally derived from Africa, and water is collected in tanks during the rainy season, but is not very good, being on the neutral ground. The climate is generally though rather warm, the temperature ranging from about 85° in July to 50° in January. Winds are commonly east or west; the former prevailing mostly in July, August, and September, the latter in December, January, and May.

The bay forms a convenient naval station, being situated in a bay $4\frac{1}{2}$ miles broad, and 9 miles long, which is protected from all the more dangerous winds, while the harbour is secured by two forts. Being also a free port, subject to few or no duties or restrictions, it is a convenient place for merchandise destined for the neighbouring countries, particularly those of Spain and Portugal. During the last war, it became the seat of an immense commerce, and in one year the value of British manufactures exported into it, exclusive of colonial produce, is stated by the Board of Customs to have amounted to nearly £3,000,000. But various circumstances have since diminished this trade; the chief being the opening of other ports in the Mediterranean, and the extended intercourse with Great Britain, the dread of yellow fever, which, in the years 1822 and 1823, produced great mortality in the town (but against which greater security now exists, owing to the recent opening up of the streets), and the various edicts of the Spanish government which place it almost in a state of commercial non-intercourse with that country, under the pretext of preventing smuggling into the provinces adjacent to the fortress. The illicit intercourse, however, is still, notwithstanding, pretty considerable, and of late years the general opinion is that the port exhibits symptoms of revival. The declared value of British manufactures and goods sent to Gibraltar was, in 1821, £1,218,183; in 1825, £908,722; in 1830, £292,760; in 1832, £2,580; and in 1839, £1,170,702; consisting mainly of cotton manufactures, but comprising also linen and woollen goods, apparel, iron, hardware, cutlery, earthenware, and coals. A considerable quantity of foreign and colonial articles, such as spices, tobacco, India cottons, rum and indigo, are likewise carried thither from England. The goods exported to this port from Gibraltar consist of Spanish wine, sheep's wool, and a few other articles, the amount being, however, quite trifling. A considerable intercourse is also maintained with the continent, adjoining the Mediterranean, as well as the United States and West Indies; and the number of vessels which entered the port in 1839 was 3618, burden 282,872 tons; whereof 1,199,971 tons; British colonies, 11,399 tons; United States, 18,965 tons; foreign, 199,971 tons.

Disputes and differences are commonly referred to the judge-advocate: from his award an appeal may be made to the governor, whose decision is final, unless the sum in dispute exceed £300, in which case a further appeal may be made to the privy-council. The increase of new residents is disallowed; but foreigners are allowed permission to remain during specified periods, on giving

MEASURES, WEIGHTS, MONEY, FINANCES, &c.

Measures and Weights.—British measures and weights are employed; also the following Spanish, the pipe of 117 galls. = 126 English wine galls.; the arroba liquid measure = 35 English wine galls., or 277 Imp. galls.; the quintal = 26 lbs. avoird.; the quintal = 101½ lbs. avoird.; 5 fanegas of grain = 8 Winchester, or 7½ Imp.

—The integer of account is the Spanish real (or cob) divided into 12 current reals, or into 100 cents.

3 current reals = 5 Spanish reals vellon.

Formerly the money of account was the current dollar of 8 reals, a fictitious money equal two-thirds of the hard dollar, the reals and quartos of both being the same. The currency is composed of dollars, pesetas, gold doubloons of 16 dollars, and of a small quantity of British silver and copper coins; no paper money is in circulation.

Bills on London, Marseilles, Paris, and Genoa, are drawn at 90 days' date; and on Cadiz, Malaga, Madrid, and Seville, at 8 days' sight. The

The S. part of the promontory, called Europa Point, is distant 11½ mll on the opposite coast of Africa. Gibraltar is the *Calpe* of the Greeks, who Abyla, on the African coast, the name of "the Pillars of Hercules." It was possession of the Moors, and did not become an appanage of Spain until 1462. It was fortified in the modern style by Charles V. In 1704, it was captured by the British and held until it has since remained, but not without several attempts to retake it. It occurred in 1705, 1727, and 1779. The last was the most memorable, and lasted 1

GIN, a spiritous liquor made in England, in imitation of D [GILNEVA.] It is generally prepared by adding various flavourin during the rectification of spirits made from barley or oats. The only acknowledged one is the juniper berry; but oil of turpenti substances are said to be also used. The consumption of gin is chief the labouring classes in England, and especially London. In Scot land a preference is given to whisky. [SPIRITS.]

GINGER (Fr. *Gingembre*. Ger. *Ingwer*. Por. *Gengibre*. It. *Z Inbir*. Sp. *Jenjibre*), the root of a plant (*Amomum zingiber*) cultivat both the East and West Indies and China. It occurs in knotty bra having a pleasant aromatic odour, and biting taste. There are two black and the white. *Black ginger* consists of the inferior roots, wh immersed in boiling water previously to being dried, and has thus a l *White ginger* consists of the fairest and roundest roots, peeled whan fr in the sun. It is firm and resinous, more pungent than the black, one-third dearer. The roots which are worm-eaten, light or soft, an are to be rejected. *Preserved ginger*, as manufactured in Europe fibrous; but when prepared in the East or West Indies or China, fr roots, it is almost transparent. It is imported in jars, and shoul large pieces of a bright yellow colour.

GINSENG (Fr. It. Du. & Ger. *Ginseng*. Sp. *Jinseng*. Por. *l Yausan*), the root of a plant (*Panax quinquefolium*) indigenou Tartary, but cultivated in Kentucky in North America, from wh is exported to China. It occurs in pieces about three or four inches lo forked, transversely wrinkled, and of a yellowish colour; it has litt but a sweetish and slightly bitter-warm taste.

Ginseng is discarded from the British materia medica, but it is in great reputa from immemorial ages, it has been extolled as a panacea or universal medicine; w generic name, which signifies a remedy for all things. Père Jartroux says that the Chinese physicians have written volumes on the *Gen-seng*, which they affirm to be or to remove fatigue, to invigorate the enfeebled frame, to restore the exhausted to make old people young, and, in a word, to render man immortal; this savi however, added by the more cautious, "if any thing on earth can do so." *Hen: sen* signifies the "wonder of the world," or "the dose for immortality." In 17 sent an army of 10,000 Tartars in search of it, on condition that each soldier two cattles of the best, and sell the rest for its weight in silver.

GLASS (Fr. *Verre*. Ger. *Glas*), a well-known substance, in a hig

mon kind of kelp or pearl-ashes. Window-glass is made of a purer alkali, and which is free from iron. Plate-glass is composed of sand and alkali in their purest state; and in the formation of flint-glass, besides these pure ingredients, a considerable quantity of litharge, or red lead, is employed. A small quantity of peroxide of manganese is also used, in order to oxidize carbonaceous matters contained in the materials of the glass; and nitre is sometimes added with the same intention. According to Mr Faraday, ordinary flint-glass contains 51·93 per cent. of silica, 33·28 oxide of lead, and 13·77 of potash. The finest sand used in our glass-houses is procured from Lynn in Norfolk, and Alum Bay in the Isle of Wight.

In this country, the glass manufacture was at an early period of its history made an object of taxation, and in 1694, duties were imposed, which acted so injuriously that in a very few years the whole were repealed. About half a century later (1746), when the manufacture was in a more advanced state, a duty was again imposed, at the rate of one farthing per pound on the materials used for making bottle-glass, and one penny per pound on those used for crown, plate, and flint-glass. These rates were advanced from time to time in common with most other duties, and in 1793, stood as follows:—Bottle-glass, 4s. 0½d. per cwt.; broad-glass, 8s. 0½d. per cwt.; crown-glass, 16s. 1½d. per cwt.; and for plate and flint glass, 21s. 5½d. per cwt. Further augmentations were afterwards made; and in 1813, when the former rates were doubled, they were—for bottle-glass, 8s. 2d. per cwt.; broad-glass, 24s. 6d. per cwt.; crown-glass, 73s. 6d. per cwt.; and for plate and flint-glass, 98s. per cwt. These rates were partially abated or modified in the years 1819, 1825, 1830, and 1835; and in 1838, they were fixed (1 & 2 Vict. c. 44) as follow:—Bottle-glass, 7s. per cwt.; broad-glass, or spread window-glass, 30s. per cwt.; crown-glass, and German sheet-glass, 73s. 6d. per cwt.; for material employed in the making of plate-glass, 60s. per cwt.; and on the fluxed materials or other preparation employed in making flint-glass, 6s. 8d. per cwt. By a later act (2 & 3 Vict. c. 25) it is explained that no glass is to be deemed broad or spread glass, and so to have the privilege of the low duties, unless it be blown in cones and spread on sand; and by 3 & 4 Vict. c. 22, the same duties were imposed upon broad or spread glass that are payable upon German sheet-glass.

These excessive duties have materially checked the use of glass in this country, and until within the last few years, the quantity made was less than before the war of 1793, notwithstanding the great increase of population in the interval. The vexatious and complicated regulations necessary for the collection of the duties have also so interfered with the manufacture as to prevent the introduction of many improvements,—especially in the economical processes. Hence, notwithstanding the advantages which Great Britain enjoys as to fuel, which forms a large part of the cost of the manufacture, and although she likewise possesses nearly all the materials of which glass is composed, and can procure the rest as cheaply as any other manufacturing country, yet there is not any other in which glass is made where its price allows our produce to be brought into competition with their own. The quality of British glass, however, is good, and our plate-glass now rivals that of France. Of late years also, a gradual fall of prices has taken place, which may be held as an indication that some economical improvements have been introduced, notwithstanding the obstacles presented by the excise laws.

A separate cause of the disadvantageous contrast which the glass manufacture presents to our other branches of industry, is perhaps to be found in the fact that in order to work profitably under the excise regulations, it is necessary to conduct the processes upon so large a scale as to create a virtual monopoly of the manufacture in the hands of a few,—a state of things unfavourable to improvement. In the year 1839, the number of glass manufacturers in the United Kingdom was only 148; of whom, 124 were in England, 15 in Scotland, and 9 in Ireland. The principal English works are situated at Newcastle upon Tyne and Shields, owing to the cheap rate at which fuel can be obtained in those places; the others are mostly in or near Stourbridge, Liverpool, Bristol, St Helens, Warrington, Birmingham, Leeds, and London. The Scottish are chiefly in the districts of Edinburgh and Glasgow, and at Alloa. The Irish at Dublin, Cork, Belfast, Waterford, and Newry.

The statutory regulations of the manufacture are chiefly embodied in the glass consolidation duties act, 1 & 2 Vict. c. 44, and the 2 & 3 Vict. c. 25, already alluded to. These, especially the first, contain a multitude of minute technical provisions, to which, as the originals will doubtless be in the hands of all persons interested, it is not thought expedient to devote space here.

The following tables, the first of which is abridged from Mr Porter's "P of the Nation," will serve to illustrate the recent history and present condition of the manufacture :—

ACCOUNT of the Progress of the Glass Manufacture from 1790 to 1839

		1790.	1800.	1810.	1820.
Manufactured and retained for Home Consumption.					
Common Bottle	Cwt.	213,034	130,334	222,872	167,908
Broad	Cwt.	21,372	19,874	9,176	7,782
Crown and German sheet	Cwt.	81,233	33,821	69,232	70,253
Plate	Cwt.	44,327	61,748	68,872	8,822
Fine	Cwt.	1,270	2,233	120	202
Plate, &c. imported	Feet	11,373	1,968	....	....
Net Revenue of Customs and Excise....		£109,068	£108,240	£318,833	£469,600

TABLE showing the Quantities of the different Kinds of Glass charged with Duty, the gross Duty levied, the Duty drawn back on Exportation, and Revenue in the Year 1839.

	Quantities Charged				Gross Duty.	Draw-back.
	England	Scotland	Ireland	Total		
	Cwt.	Cwt.	Cwt.	Cwt.	£	£
Bottle-glass	366,000	107,021	12,106	485,126	169,808	81,327
Broad	8,514	....	....	8,514	12,771	....
Crown and German sheet	131,331	3,379	....	134,712	542,417	66,892
Plate	28,413	....	....	28,413	83,230	5,846
Fine	9,064	7,467	7,407	104,933	97,958	21,142
					958,193	173,207

The declared value of the exports has been for a late series of years as fo

1830.	1831.	1832.	1837.	1838.	1839.	18
£40,543	£44,410	£331,334	£477,767	£377,283	£371,206	£43

These exports, consisting principally of bottle-glass, crown and German sheet chiefly take place to the British colonies and India, which, indeed, take two thirds of the whole; of the remainder, about £50,000 goes to the United States, £20,000 to Brazil, and the rest in very trifling quantities to various places.

The glass manufacturers are among the very few who seek for protection against foreign competition, and the import duty on foreign glass ranges generally about 30 to 40 per cent. above the excise duty; it is, in fact, prohibitory although the difference of price in this country is from 100 to 200 per cent. upon inferior articles, such as bottles and common window-glass, than in Germany, there is, owing to the bulky and brittle nature of these articles, a contraband trade. A small sum of customs duty appears annually in the accounts, but this is derived almost wholly from bottles imported full of spirits.

The common account of the origin of glass is that of Pliny, who relates that some sailors landed on the shore of Phœnicia, at the mouth of the Belus, and wishing to cook their food, placed some pieces of salt (of which their cargo consisted) under their pots to support them, being no stones in the neighbourhood, when the heat formed the salt and the sand of the sea into a transparent liquid vitrified mass. This production was picked up by a Tyrian, who was led to investigate its origin, and after many attempts succeeded in making glass. Tyrian glass manufactures are known to be of high antiquity; and it is not improbable that accidental vitrification might give rise to the discovery of glass; but Pliny's story is now to be fabulous, as it has been lately ascertained that the art must have been known to the Egyptians. Of this we have evidence not only from numerous specimens of glass found in tombs and among the ruins of the temples, but also from the painted representations of the manufacturing processes preserved in the same places, and which prove that they were not only in the art of fusing the materials, but also in the use of the blow-pipe,—an invention so as to indicate a high degree of civilisation. From Egypt the art appears to have been among the Phœnicians, Greeks, and Romans. In Rome, the glass makers, who had a street assigned to them, were chiefly employed in the manufacture of bottles and ornaments, and proofs of their skill may be seen in the British Museum, though the "metal" is now clear and coloured. According to some authorities, glass was also employed by the Romans in windows, but the first undoubted testimony of its application in this way is that of Leo the fourth century, who compared a penetrating mind to one looking through a glass window.

seems to have been first used in the glazing of religious edifices,—a purpose for which it was at a very early period imported into Britain.

In the middle ages, the art appears to have been confined to Italy and Germany. In the thirteenth century, the manufactories of Venice supplied the greatest part of the glass used in Europe. The artists of Bohemia were also held in considerable estimation. In England, glass-making was first practised in the year 1557, when a manufactory was erected at Crutched Friars in London; and shortly after, another at the Savoy in the Strand. These establishments chiefly confined themselves to common bottle and window glass, all the finer articles being still imported from Venice. In 1673, a manufactory of plate-glass was established at Lambeth by the celebrated Duke of Buckingham, who brought workmen for that purpose from Italy. But this establishment was soon after abandoned; and it was a century later before the manufacture of mirrors and fine glass was prosecuted on a large scale. The use of glass casements was long confined to the higher ranks, and it was near the end of the seventeenth century before the glazing of windows became general in this country.

GLAUBER SALT, sulphate of soda. [SODA].

GLOVES (Du. *Handschoenen*. Fr. *Gants*. Ger. *Handschuhe*. It. *Guanti*. Por. *Luvas*. Rus. *Rukawixii*. Sp. *Guantes*), coverings for the hands, made generally of leather, but frequently also of cotton, silk, worsted, and linen. Of the first, the finest are those made from the skin of the kid, which are extensively manufactured in this country, though of a quality inferior to those imported from France. In England, the chief seats of the leather glove manufacture are, Woodstock (distinguished for those of fine quality), Worcester, Yeovil in Somersetshire, London, Ludlow, and Leominster; in Scotland, superior gloves are made at Dundee. Cotton gloves are chiefly manufactured at Nottingham and Leicester. [HOSIERY.] The principal kinds of gloves are described by Mr Perkins, in his useful "Treatise on Haberdashery and Hosiery," as follows:—

"Kid is valuable in proportion to its elasticity. When this quality is united with closeness of texture, the gloves called 'town-made' are so superior to most others of our own manufacture, as to rival the French, and disprove the prevailing opinion of the superiority of the latter. Independent of the quality of the kid, a good glove is distinguished, first, by its being neatly sewed; secondly, by the thumb-seam not extending too far into the palm; and, lastly, by the colour of the exterior not having soiled the inside. Most of the lower-priced English gloves, offered as 'kid,' are in reality made of lamb-skin. When what is called a kid glove feels unusually stout, it may be considered highly probable that it is only lamb-skin in imitation. It must consequently be understood that all good kid, in addition to the qualities already described, must be reasonably thin. Three-fourths of those passing under the title of French gloves are made in this country; French kid gloves are made in this country of French or Italian skins; and it is usual to apply to these the name which properly belongs to the former. The best skins are most decidedly the French; next, the Italian; and, lastly, those from Ireland. *Limerick* is a very sleazy and somewhat gritty feeling glove of the kid kind, made in Ireland; very little in demand except in that country. *Beaver*, though the quality is various, forms the commonest description of leather gloves. The *Woodstock* is a very superior beaver, to which much attention is paid both to the shape and sewing. *Doerskin* is a more thick, durable, and soft leather than the Beaver or Woodstock: in its make it does not excel the latter, though it surpasses the former. *Buckskin* is the closest grained, and consequently the strongest leather of which gloves are made. Its elasticity, though trifling, is sufficient. It also bears cleaning better than any other kind. It may be had in white, drab, or buff. *Sheepskin* is generally white, and most usually made by contract for the army. *Tan* is of three qualities, common, drawn, and York. This is a very serviceable and cheap glove for gardening, riding, or driving. The strongest of each class is sewed peculiarly, and termed pricked seam. The quality of *silk gloves* is determined by weight and neatness of sewing. They may be had in white, black, French white, and colours. *Thread gloves* are made of hemp, and are neater in appearance, though much resembling those made of cotton. Neither of them, however, can be recommended, except on the score of economy. *Berlin gloves* were originally imported from Berlin and some parts of Switzerland, but are now manufactured by ourselves. They are certainly a great improvement on the old cotton gloves." (6th Edition, p. 106.)

The introduction of foreign gloves into the United Kingdom was prohibited until 1825, when it was allowed, on payment of a duty which ranges from 20 to 40 per cent., according to circumstances. The effect of this measure was to create a considerable competition between our manufacturers and those of France, and an improvement both in the quality and economy of the gloves made by the former. As a great increase also occurred at the same time in the importation of foreign cat, kid, and lamb skins, it may be inferred that the impetus produced by the change was likewise productive of a considerable augmentation in the quantity of other gloves of home manufacture, although more recently this branch of the trade has received a check from the increased use of cotton gloves, especially the Berlin kind.

The quantity of leather gloves imported in a legal manner, at present averages about 1,200,000 pairs a-year, brought almost wholly from France, and yielding about £23,000 of duty. This, however, is much short of the actual importation, as the existing duties are still so high as to lead to a considerable smuggling trade, which Mr M'Gregor states can be conducted for a charge upon the fine gloves of only nine per cent. "I consider," says that gentleman, "that if the duty were

THE ACTUAL CONSUMPTION OF GLOVES WOULD BE IN SOME DEGREE THAT IT IS IN PRESENT, BUT THAT IT WOULD TEND NEARLY ALTOGETHER TO BE SUPPLANTED. (See *Report on Import Duties*, p. 12). Again, on being asked if the competition with advantages the French possessed over the English in producing gloves, he says, "The only advantages the French can have over the English in producing gloves are, first, that they have some method of preparing leather which is considered superior to ours, and the other is the price of labour: these, with greater skill and dexterity, can be the only advantages. (*Ibid.* p. 12.)

Leather gloves must be imported in packages, each of which shall contain 100 dozen pairs of such gloves, and a stamp of 10 lines square at 1/2 inch, under penalty of forfeiture. (3 & 4 Wm. IV. c. 10.)

Foreign gloves and inner gloves are to be admitted to entry at the ad valorem duties chargeable on foreign gloves and inner manufactures respectively. (Treas. O. Dec. 3, 1831.)

GLUE (*Fr. Colle. Ger. Leim*), a well-known commodity employed for cementing wood. It is extracted from refuse animal substances, and differs in quality according to the materials employed: the best being obtained from the skins of old animals. It generally occurs in square cakes, and when good, is hard and brittle, of a semi-transparent and deep brown colour, and free from clouds and spots. That which is soluble in cold water is weak. The parings of hides, pelts from furriers, the hoofs and ears of horses, oxen, calves, and sheep, are largely imported for its manufacture.

GOAT, a well-known quadruped (*Capra*), nearly the size of the sheep, to which it is allied, but stronger, less timid, and more agile; and having horns, hollow, erect, and scabrous. Species of this animal are found in many parts of the world, but that which is domesticated in Europe (*C. Hircus*) is perhaps peculiar to this quarter of the globe. In most parts of the United Kingdom it is kept rather as a pet than for use; and even in Wales, where it was formerly plentiful, it is now comparatively rare, except in Glamorganshire, where some still exist in a wild state. In the S. of Europe, particularly Spain and Italy, goats are more extensively reared, and flocks of them are very common. The animal is not long lived. Its young are brought forth in March or April, and two are commonly produced at a birth. It feeds on the coarsest herbage, delights to frequent rocks and mountains, and may be reared profitably in such districts as will not carry sheep. Its flesh is esteemed as food in the countries where it abounds, and the haunches are frequently salted and dried; the female is in request for her milk; the horns are useful for knife-handles; and superior candles may be made of the suet; but the part most valued is the skin, particularly that of the kid, which is extensively used in the glove manufacture. In the age of wigs, the hair of the goat was in great request, and even yet the pure white wigs sometimes worn by lawyers and clergymen are made of it,—the long thick hair on the haunches being that generally preferred.

The *Angora Goat*, inhabiting the district around Angora and Beibazar, in Asiatic Turkey, is in high estimation for its soft and silky hair. The *Cashmere* or *Thibet Goat*, is a small beautiful creature, greatly valued for a delicate wool procured from between its long hairs. [SHAWLS.] Attempts have been made to acclimatize this animal in Europe; and some success has attended the introduction into France of a Tartar half-breed which had been found to thrive in a colder climate. More lately (1836), a cross is said to have been obtained, at Frankfort on the Maine, between the Thibet goat and Merino sheep; but the fruitfulness of the hybrid progeny, and success of the experiment in a commercial point of view, have not yet been ascertained.

GOGUL, a species of bitumen much used in India for painting the bottoms of ships.

GOLD (*Dan. Guld. Du. Goud. Fr. Or. Ger. Gold. It. Oro. Por. Ouro, Oure. Rus. Soloto. Sp. Oro. Sw. Guld. Arab. Tibr*), a beautiful metal, of a deep and peculiar yellow colour. It exceeds all others in ductility and malleability. It may be beaten into leaves 1-282,000th of an inch in thickness, and a single grain may be drawn out into 500 feet of wire. Sp. gr. 19.3. Fusing point, 2016° Fahr. Gold is not acted upon by any solvent except *aqua regia*, a mixture of muriatic and nitric acids. It is unchanged by fire with access of air,—the hottest furnace producing no other effect upon it than to keep it in fusion, when it appears of a brilliant greenish colour. It, however, contracts more than any other metal in cooling. The uses of gold are numerous. Alloyed with copper or silver it is employed for coin, plate, and a variety of articles of luxury and ornament, for which purposes it is in the highest request, from its great beauty, unchangeableness, and lustre,

In the arts it is extensively used for gilding. Gold is found in the native state, in combination with silver, and often mixed with metallic sulphurets and arseniurets. It occurs in greater or less abundance in almost every part of the globe. It is obtained chiefly in the form of a fine sand from the Peruvian, Mexican, and Brazilian rivers, and from some of the African : in Europe, the Danube, the Rhine, the Rhone, and the streams of Hungary and Transylvania, afford small quantities. It also occurs in mineral veins in primitive mountains, but not of the oldest formation : it is thus found in Brazil, Peru, Mexico, Hungary, and Transylvania. It has been also found in grains and rounded masses in soils, evidently the ruin of rocks, which contained it in its natural situation ; in this state it occurs on the coast of California, in Wicklow in Ireland, and in Cornwall. Of late years considerable quantities have been obtained in the Ural Mountains in Russia, in North and South Carolina, and in the adjoining Atlantic tracts of the United States. [BULLION. COIN. PLATE.]

GOMUTI. [EJOO.]

GOODS, a general name for moveables, but usually restricted to merchandise.

GOOSE. [POULTRY.]

GOOSEBERRY, the well-known fruit of a bush (*Ribes Grossularia*) abundant in this country, alike in the garden of the nobleman and of the cottager. The catalogue of the Horticultural Society enumerates 200 kinds, but all prefer the temperate climates, with an inclination rather towards the cold than the warm. Hence the flavour of the Scotch berries is much superior to that of those produced in any part of England. In size and appearance, however, the gooseberries of Lancashire are said to be unequalled by any in the world ; and there, as well as in Cheshire, Staffordshire, and Warwickshire, striking improvements have been introduced into the cultivation of this cheap and agreeable fruit.

GRACE. [DAYS OF GRACE.]

GRAM, in oriental commerce, a name given to the produce of various leguminous plants cultivated in India.

GRAMME, the unit of the French measures of weight, is equivalent to a cubic centimetre of pure water, or 15.434 troy grains.

GRANILLA, the dust or small fragments of the cochineal insect.

GRAPES (Fr. *Raisins*. Ger. *Trauben*. It. *Grappi*, *Grappoli*. Por. *Uvas*. Sp. *Ubas*), the fruit of the grape-vine (*Vitis vinifera*), a tree with long slender branches, generally found indigenous in countries lying between 26° and 44° N. lat., and between 26° and 75° E. long., but the growth of which in the open air has been extended by cultivation 10° on each side of that range. This fruit is made an object of attention chiefly in the countries of the S. of Europe, although in none have grapes been produced equal to those of Syria, as regards the size of the berries and weight of the branches. Grapes are chiefly used in the manufacture of wine, but they are also extensively consumed as food, and in this country are a common article of the dessert. For the latter purpose they are mostly imported in a dried state [RAISINS] from Spain and Turkey ; while a small kind, much used in puddings [CURRANTS], are brought from the Ionian islands and Greece. A considerable quantity of undried grapes are also imported, principally from Portugal, in jars. In Great Britain, they are grown for the dessert in hot-houses, except in the counties of the S. of England, where some species thrive in the open air. In former times, indeed, wine was largely made in those districts, from the grape ; and in Devonshire there are reported to be still two or three vineyards maintained for that purpose.

GREAT BRITAIN. [UNITED KINGDOM OF GREAT BRITAIN AND IRELAND.]

GREECE, a kingdom in the S. W. extremity of Europe, lying between lat. 36° 16' and 39° 34' N., and long. 20° 43' and 26° 28' E. It comprises Continental Greece, naturally divided by the Isthmus of Corinth into two portions, Hellas (called also E. and W. Greece), and the Morea, with the island of Eubœa, the Cyclades, and the N. and W. Sporades. It is surrounded by the Mediterranean, except on the N., where the continental part is bounded by Turkey. Area, 15,000 square miles. Population estimated at 900,000. The whole was divided in 1833 into 10 nomarchies (nomoi), which were subdivided into 54 eparchies, and these again into 468 parishes (demei). Capital, Athens ; pop. 17,000. Government, a hereditary monarchy, nearly absolute.

The surface of the kingdom is in general mountainous, and the only extensive level tracts are in W. Hellas, and on the northern shores of the Morea ; these, with small plains scattered through E. Greece, are the most productive districts. The climate is for the most part healthy, except in the marshy tracts adjoining the coast and lakes ; and in the plains the medium temperature of the year is about 60° Fahr. About 3-4ths of the surface belong to the state and to the church,

...the country, especially to assist the ...
...and many women. This is exclusive of about 500
...the ... vessels are engaged in the carrying of
...the ... and the ... Sea.

...the ... of raw materials, wool, oil, copper, wine, wax, and
...the ... of corn, cotton, silk and woollen man-
...the ... of the ... is centred in the ports of Mithra-
...the ... of Athens, on the E. coast of Hel-
...the ... of Mithra, and Syra, Hydra, and Spargia, in the respecti-

...the ... of Mithra, about 6 miles S. W. of it
...the ... of the ... It was formerly
...the ... of W. Greece; but the town was ruined
...the ... only in part restored. Its cli-
...the ... of shipping enter annu-
...the ... of the latter is estimat-
...the ... at the N. E. extremity of the
...the ... estimated some years ago at 12,000
...the ... is tolerably large and im-
...the ... a small fortified island at the
...the ... of shipping enter annually.

...the ... is a fantastically situated in the isle
...the ... at the base of which is an ex-
...the ... the decay of Hydra, Syra may be
...the ... the number of vessels cleared in
...the ... And there entered 1431 vessels; but
...the ... of the imports are in British ton-

MEASURES, WEIGHTS, MONEY, &c.

...the ... the expenditure at 16,447,125
...the ... a deficit of 4,095,119 drachmas
...the ... includes 2,801,339 drachmas
...the ... home debt.

...the ... The foreign debt consists of
...the ... of this country, namely
...the ... in 1854, at 20 per cent.; 24, £
...the ... at 50 per cent., and 34, £
...the ... The whole are in bonds bearing
...the ... but no dividend has be-
...the ... first since July 1831, nor upon
...the ... July 1827. The third, for
...the ... Great Britain, France, and
...the ... portions, the interest upon it is
...the ... London, on 1st March and 1st
...the ... a certain portion of the bonds
...the ... for £40 each are annually re-
...the ... of 1 per cent.

...the ... The duties on exports average
...the ... but none are ex-
...the ... A Treaty of Commerce between
...the ... and Greece was concluded Oct
...the ... provides for equal and recip-
...the ... and port duties, and

the shore consists almost wholly of one uninterrupted glacier. The west coast, though high, rugged, and barren, is less cold and miserable than the other; and it is here that the Danes have established a few colonies, chiefly commercial and missionary establishments. The most ancient, called Good Hope, in lat. $64^{\circ} 10'$, possesses an excellent harbour. Uppernavic, in lat. $72^{\circ} 48'$, is the most northerly station. The vegetation is scanty, composed chiefly of mosses and lichens, with a few shrubs bearing edible berries. Reindeer, hares, foxes, white bears, and dogs, exist on shore; but it is aquatic animals that constitute the principal source of wealth. The ordinary food of the natives consists of the caplin and the seal; the skin of the last supplies them also with dress. Whales are likewise common, especially towards the north; and walruses are met with in Davis' Straits. The Danes export from their different settlements train-oil, fish, whalebone, sealskins, fur, and elder-downs, the trade giving employment to about five or six vessels; while the seas within Baffin's Bay and Davis' Straits are frequented by vessels from most of the maritime states for the prosecution of the whale-fishery.

GRINDSTONES, circular stones on which edged instruments are sharpened. They are formed of a species of hard sandstones, known in the N. of England under the name of grindstone-grit. The celebrated "Newcastle grindstones," exported to all parts of the world, are obtained from the quarries of Gateshead Fell, in the county of Durham; but the stones chiefly used in Sheffield are procured at Wickersley, in Yorkshire.

GROAT, an English silver coin, equivalent to four pennies, first minted in the reign of Edward I.

GROSCHÉ, a small silver coin and money of account in various parts of Germany, equivalent to nearly 1½d. sterling.

GROS DE NAPLES, a plain silken fabric made of stouter and harder thrown organzine silk than sarsnet or persian, and woven with more care and labour.

GROS DES INDES, a silken fabric having a stripe formed transversely to its length.

GROSS, in numeration, signifies twelve dozen. *Gross-weight* is the weight of merchandise including the package and dross around it.

GROUNDAGE, a duty payable in some places by ships coming to anchor.

GUACHAPELI-WOOD, the name given to a strong species of timber, the product of a tree found in Colombia. It is largely exported from Guayaquil.

GUAIAIC, or **GUM GUAIAICUM**, is a resinous substance obtained in various ways from the guaiacum tree. It occurs in large amorphous hard pieces, with bits of bark sometimes adhering to them. It is of a friable texture, and naturally of a reddish-brown colour, but from the action of the air, the surface is generally of a deep greenish colour; it has a pungent acrid taste, but little or no smell, unless when heated. Sp. gr. 1.23. Those pieces are to be preferred which have slips of the bark adhering to them, and that easily separate from it by a quick blow. It is an article of the materia medica.

GUAIAICUM, or **LIGNUM VITÆ** (Fr. *Gayac*. Ger. *Pockhalm*. Sp. *Guagaco*), a tree which grows to a great size in Jamaica, Hayti, and other West India islands. Its timber is resinous, colour greenish-black, taste acrid, and when kindled it gives out a pleasant odour. It is very hard; sp. gr. 1.333, being heavier than water, and indeed the weightiest timber known, and the most difficult to work. It is well adapted for stampers and mallets, for friction-rollers, castors, and turnery-ware; also for the sheaves or pulleys of blocks, a purpose for which it is much used; and its application may be seen upon a grand scale in the beautiful block-machinery at Portsmouth. A decoction of the capsules, wood, or bark, is also used in medicine.

GUANO, a highly concentrated manure, is a dark yellow substance, of a strong ambrosial odour, found in deposits 50 or 60 feet thick, and of considerable extent, upon the coasts of Peru, the islands of Chinche, near Pisco, and other places more to the south. It is said to be an accumulation of the excrements of herons, flamingos, and other birds inhabiting these localities. This substance has of late become an object of considerable trade.

GUARANTY (or as it is generally but loosely called **GUARANTEE**), is an engagement to perform some act, or pay some debt, in case another person primarily liable fails to do so. In England, the term is generally used to express the contract of suretyship, whether for the payment of money or the performance of other obligations. In Scotland, a distinction is taken between what is termed a "cautionary obligation," and a guaranty or letter of credit, the former being a regular contract indigenous to the Scottish jurisprudence, while the latter was introduced from the English law by the progress of commerce. "It [guaranty] is distinguished from a formal cautionary obligation," says Professor Bell, "chiefly by the looser epistolary form of the writing," and the chief practical distinction seems to be in the privileges accruing to the formalities employed in giving expression to the latter. [**CAUTIONARY OBLIGATION.**] In England, guaranty is affected by the 4th

[illegible]

ompanying an order of goods to the amount guaranteed), the natural interpretation will be that the guaranty is not continuous. A guaranty will not have a retroactive effect, unless it be so expressed; but where one offered to purchase goods which would not be delivered without a respectable reference, and next day sent a letter stating that if such goods as the purchaser wished to buy were delivered, the defendant would guarantee the payment, not exceeding £50, he was responsible for the price of the goods bought but not delivered (*Simmons v. G.*, 1819; 2 *Starkie*, 426).

In Scotland, a species of guaranty may be raised by the conduct of the grantor of a mere letter of recommendation. A simple recommendation is not held to bind the grantor; but if it contains fraudulent and false information, to which the party to whom it is addressed has given credit, and has thereby been deceived, the grantor is responsible as for a guaranty. Thus, where A wrote to B of a man whom he knew to be merely a labourer, saying "he had requested my line to some extent in the trade in Glasgow: and if you and he can agree as to the price, I have no objection to your dealing to a considerable extent," he was held responsible (*Corbet agt. B.*, 7th February 1794; *B. C. I.* 372). Independently of false information, a recommendation may be interpreted as a guaranty if it refer to any particular transaction, or to the credit of the party. Thus, where a letter introduced an individual "as intending to open for a sale of spirits and ale at the term," and added, "the lad has always behaved with propriety hitherto, and I doubt not will give satisfaction in any transactions he may have with you," the first part was a mere introduction, but the latter as a guaranty (*Ranken agt. Murray*, 15th November 1812; *F. C.*). Where the recommendation is given in answer to inquiries by a person who acts on it, the expressions are interpreted more widely, and in favour of the writer.

A guaranty is discharged by the creditor giving the debtor time, or "extending the period at which, by the contract between them, the principal debtor was originally liable to pay the creditor, and extending it by a new and valid contract between the creditor and principal debtor, to which the surety does not assent" (*1 v. Jones*; 1 *Cr. M. & R.* 107). This principle will operate where credit is beyond what has been usual in the course of dealing between the parties, as in the case of mere forbearance. Laches or negligence will discharge the surety—neglect of notice of dishonour of a bill of exchange, payment of which the surety intended, may be adduced as an example. When the surety has been brought into liability to pay, he has recourse against the principal. In equity he is entitled to be substituted to the creditor on any security charged with the principal debt. "Nay, it appears, that if the surety be under a disability, which prevents him from obtaining, in his own person, the benefit of securities which have been provided for the creditor, equity will restrain the creditor from proceeding against the surety till he has resorted to those securities; though such circumstances furnish no defence at law. And where the principal has assigned his effects in trust for his creditors, a creditor who has a guaranty will be forced, even if he cannot apply, in discharge thereof, a rateable part of any payment he may receive from the trustee." (*Smith's Mercantile L.*, 389.)

A surety, where there are more than one, has a right to reimbursement from the co-sureties. This right is called the right of contribution. It is not affected by questions,—whether the sureties bound themselves jointly and severally by one instrument, or by several instruments, and whether or not they were aware of the other's engagements. By common law, the contribution is according to number; but in equity has regard to the insolvency of any of the sureties. "Thus, if A, B, and C, be co-sureties, A, having paid the debt, would be entitled to recover at first only from B, though C may have become insolvent; whereas, in equity, he would be entitled to one-half. But both in law and equity, if he have been repaid in part, the contribution must be calculated on the residue. And, it is not at all where one surety becomes so at the instance of another, that other cannot sue on him for contribution" (*Smith's Mercantile L.*, 390). As to recourse on the principal debtor and co-sureties in Scotland, see CAUTIONARY OBLIGATIONS. *Guaranties. Pitman on Principal and Surety. Smith's Mercantile L. 389. Morton on Vendors and Purchasers*, 377-393. *Bell's Com. ut supra.*)

GUYANA. [CENTRAL AMERICA.]

JERSEY. [JERSEY.]

GUAYANA, OR GUYANA, the name formerly given to the north-eastern portion of South America, lying between the rivers Orinoco and Amazon; but as about five-sixths of this territory have been included within Brazil and Venezuela, the term is

Exports are mostly to our colonies in North America and West Indies; those to others are trifling. The value of the exports in 1836 was estimated at £2,135,379; but value hardly exceeded £1,000,000. The imports consist of cod-fish, wood, and lumber, &c., from N. America; wine; and British produce and manufactures, including apparel, cotton, linen, woollen, and leather goods, hats, glass, and earthenware, iron, and other articles; the value of the whole imported into Demerara in 1836 amounting to £1,140,738; total, £911,577.

Shipping entered inwards in 1836 consisted of 716 vessels, burden 111,425 tons; of which Great Britain, 66,914 tons; British colonies, 34,526 tons; United States, 7000 tons; foreign, 1000 tons.

Of the colony deserving of notice are only two, Georgetown and New Amsterdam.

Georgetown, formerly called Stabroek, the capital and seat of government, is situated on the E. bank of the Demerara, a short distance from its mouth, in lat. 6° 49' N., and long. 58° 12' W.; population, 10,000. The houses, made of wood, are generally two stories high, with porticos and balconies, projecting roof. The streets are wide and traversed by canals. Shops and stores are well supplied with European goods plentiful; the markets also are good. There are likewise many comfortable houses and wharfs; but the latter can be safely approached only by small craft, on account of the declivity of the bank, and the ebbing of the tide, the rise of which on the river is from 16 to 24 feet. Vessels not drawing more than 14 feet, load and discharge their cargoes in the middle of the stream; but those of greater draught cannot enter the river, owing to a bar at the mouth, and must therefore complete their loading outside. Within a mile of the town, on the left bank of the Demerara, is a small mud-fort, called Fort William Frederick. The town is the great mart for the produce of the countries adjacent to the Essequibo and Demerara, its commerce considerable.

New Amsterdam lies in lat. 6° 15' N., and long. 57° 21' W. at the confluence of the river Canje into the Demerara, near the entrance of the latter into the sea, and about 57 miles E. of the Demerara; the coast here is encumbered with shallows, and the harbour, though good, is difficult of access. From this town is exported the produce of the plantations on the rivers Berbice and Corrivert. A schooner drawing 14 feet may, it is said, sail 200 miles up the Berbice, while the Canje is navigable for schooners. The entrance of the former is protected by three batteries.

MEASURES, WEIGHTS, MONEY, FINANCES, &c.

Measures and Weights are chiefly British. 12 of 28 inches = 27 Imp. inches; 16 Dutch = 100 lbs. avoirdupois.

The monetary unit is now the dollar, 100 cents, and represented by Mexican dollars of the standard weight. The currency is composed of bank notes, dollars, and coins, principally silver. Gold doubloons are sometimes met with, especially when the price is low, when they are sent from other W. I. islands to purchase gold.

10, the integer of account was the stiver, of 20 stivers, each of 16 pennies, at the usual exchange of 14 florins was worth about 1s. 5d. A government money, formerly issued, was lately exchanged for dollars.

The British Guiana Bank, incorporated in 1836, and the Colonial Bank, have establishments in Georgetown and New Amsterdam; and issue notes for \$5, \$10, and \$20 each, payable in silver.

Finances.—In 1836, the revenue of Demerara and Essequibo was £87,885, and of Berbice, £18,196; total, £106,081: the expenditure of the two former, £97,371; of the latter, £16,575; total, £113,946. The expense incurred by Great Britain for military protection in the same year was £45,421.

Duties.—The export rates and duties on produce are trifling. The general colonial duty on imports is 2 per cent. *ad valorem*. The crown duties, levied only on foreign goods, are described under the head COLONIES.

It is said to have been discovered by Columbus in 1498; according to others, that it was discovered by Vasco Nunez in 1504. In 1590, the Dutch settled on the Demerara; and in 1634, formed settlements in Surinam and the neighbourhood, which, however, were given up in 1667. In 1796, the settlements of Demerara and Essequibo were surrendered to Great Britain; in 1802, they were restored; but in 1803 were retaken, and have ever since remained. Surinam, which had likewise been captured by the British, was given up in 1803 to 1831, our possessions were divided into three colonies, Essequibo, Demerara, and Berbice, but in that year they were united under one government called British Guiana. Slaves were emancipated.

A (DUTCH), OR SURINAM, a colony partly the property of the city of Amsterdam, extends along the coast about 200 miles, from the Corentyn river to the mouth of the Demerara; and between them to their sources, supposed to be in the Sierra Nevada Area about 30,000 sq. miles. Population, exclusive of Indians and Negroes, 10,000; comprising between 6000 and 7000 whites, partly Jews and French, and 40,000 negroes. The seat of the governor is at the fortress of Zeelandia Paramaribo; he is assisted in his administration by a high council.

The general character of the coast is similar to that of British Guiana; but the interior, in the form of a kind of political society formed of maroons or runaway negroes, has not been settled. The settlements and plantations are chiefly along the coast, and on the banks of the Demerara and Surinam. The chief products are sugar, 25,000,000 lbs., and coffee, the value of which is estimated at 4,000,000 lbs.; the others are cocoa, cotton, rice, cassava, gums, and drugs. The chief intercourse is with Holland; provisions are obtained from the United States, in exchange for rum and syrup; and a smuggling trade is carried on with the United States.

Paramaribo, the capital, chief port, and commercial emporium of the colony, is situated on the left bank of the Surinam, 18 miles from its mouth, in lat. 5° 40' N., long. 55° 25' W. It is built in a regular plan, with wooden houses, and wide straight streets planted with orange trees; population, 10,000. It maintains an active intercourse with Holland.

Measures and Weights, those of Holland, but chiefly according to the old system.

Money.—Accounts are stated in florins or guilders of 100 cents, Netherlands currency.

GUIANA (FRENCH), or CAYENNE, extends about 200 miles a coast, from the river Marony, which separates it from Dutch Guiana, to poek, forming its boundary with Brazil. Its interior limits are unknown; its area is computed at 20,000 sq. miles. Population in 1837, 22,000, 16,600 slaves. The administration is vested in a governor, assisted by a privy of seven official functionaries, and a colonial council of 16 representatives.

The country was first settled by the French in 1604, and, with the exception of a few towns during war, it has ever since been possessed by them. The settlements are neither so numerous as in British or Dutch Guiana; the plantations are chiefly on the island and there are a few on the adjoining coast and the banks of the Organabo: the remainder of the country is still possessed by the Indians. Besides the staples noticed under the preceding article, the French have transplanted the pepper-vine, clove, and nutmeg trees, from the Indian islands, and the first two, especially the clove, are said to thrive well. In 1836, the exports were as follow:—sugar, 4,960,924 lbs.; molasses, 1,036,283 lbs.; rum, 12,765 gallons; coffee, 41,892 lbs.; cloves, 183,000 lbs.; pepper, 63,941 lbs.; cotton, 568,654 lbs.; besides wood for cabinet-making, vanilla, indigo, and tobacco, and a number of other articles; the total value being £125,000, nearly the whole of which is shipped to France or her colonies. The imports were about the same value, only one-sixth being from foreign countries. From 60 to 70 vessels enter annually.

Cayenne, the chief town and port, lies on the N. side of the island of that name, at the mouth of the river Ozapoh, in lat. 4° 57' N., long. 52° 20' W.; pop. 8000. The harbour is deep and vessels can ride in security in the roadstead.

Measures, Weights, and Money, same as FRANCE.

GUILD, a name given anciently to those commercial associations, or guilds, of particular trades, which were common in many of the towns. In the greatest prosperity, these companies, more especially in the metropolis, were the most important bodies, in which nearly the whole community was enrolled. They had their own distinct common-hall and property, and made by-laws for the regulation of their members.

GUILDER. [FLORIN.]

GUINEA, the principal gold coin of the United Kingdom until the introduction of the sovereign. It was so called from having been first coined out of the gold brought from the Guinea coast by the Royal African Company; these coins were usually distinguished by an elephant under the head, or a castle. [COIN.]

GUINEA COAST. [NIGRITIA.]

GUM. Under this term are included several modifications of a distinct principle of vegetables. To some of these the term *mucilage* is occasionally applied; and all the varieties may be referred to one or other of these. Gum-arabic furnishing a characteristic specimen of gum, and tragacanth and dragon of mucilage. Gum exudes in a liquid state from certain species of trees and becomes hard by exposure to the air. It is insoluble in alcohol, but soluble in water, being exactly opposed in this respect to the *resins*. On the application of heat it swells and softens; it is infusible. Gum, from its adhesive property, is extensively used in the arts. In calico-printing it is largely employed to give proper consistency to the cloth, previously to the application of the mordant. The gums which usually occur in commerce are, Gum-arabic, Gum-Sene, Tragacanth or Gum-dragon.

The term gum has likewise, of late years, been applied to several artificial resins. The chief of these, *British gum*, a substance obtained by roasting asphaltum, is often used as a substitute for gum-arabic in calico-printing, and for other different goods. Other kinds have been extracted from the seed of the castor-oil plant commonly called St John's bread; and from several species of lichens indigenous to this country.

GUM-RESIN. The resins, as they exude from trees, are often mixed with wax when they form *gum-resins*. These substances are in their properties intermediate between resins and gum, and are not therefore to be considered distinct vegetable principles. They are not entirely soluble in water or in alcohol, but proof alcohol dissolves the greater part of them. They also readily dissolve in alkaline solutions when assisted by heat; and the acids act upon them nearly as upon the resins. To this class belong ammoniacum, gamboge, assafoetida, olibanum, aloes, opium, and others.

GUM-ARABIC (Fr. *Gomme Arabique*. Ger. *Arabische gummi*. It. *Arabica*. Arab. *Samagh Arebee*.) is obtained from the Egyptian acacia *nilotica* or *vera*, a tree indigenous to Arabia, but found abundantly in Africa. It consists of rounded pieces or tears of various sizes. When pure it is brittle, transparent, colourless, tasteless, and inodorous; but it usually occurs of a pale

or brownish colour. Sp. gr. about 1·4. The pieces which are most transparent, have least colour, are sometimes selected from the gum-arabic in sorts, and for about double the price, under the name of picked gum. Gum-arabic dissolved in water yields a viscid mucilaginous solution which is much employed in arts. "This solution is sometimes used as a glaze or varnish, and to give a stiffness to ribands, calico, &c. When substances in a state of minute mechanical division are suspended in it, it prevents their subsidence; hence, its employment as an ingredient of writing ink, and of some paints" (*Brande's Chemistry*). It is also used in medicine.

Gum-arabic is imported direct from Barbary, the Levant, and the East Indies, and at second hand from other places. The best is called Turkey gum; the worst is the East Indian, which is, indeed, a spurious substance, the greater part of it being obtained from the *Feronia Elephantum*, and found really in stalactical fragments. About 25,000 cwts. are annually imported, thirds of which are entered for home consumption.

GUIN-SENEGAL, procured from a species of *Acacia*, is similar to gum-arabic, a longer and darker-coloured piece, and of inferior quality. It is used for all uses to which gum-arabic is employed, more particularly calico printing and dyeing. It is brought from Senegal and Barbary; and between 30,000 and 40,000 cwts. are annually imported; the quantity entered for home consumption being about 25,000 cwts.

ENGLAND. The principal seat of the manufacture of small arms in this country is Birmingham, where it was introduced so early as the reign of William III.; and that period it has been gradually but greatly increasing. During last war, the contract for muskets alone extended upon an average to 360,000 a-year; and fifteen years prior to 1828, the number supplied to government and to private persons averaged annually 200,000. In the year 1813, a proof-house was established by act of parliament (53 Geo. III. c. 115), under the conduct of a master, wardens, trustees, where the fabric of all gun and pistol barrels is tested by a heavy press; all those which sustain the explosion receive a stamp, to counterfeit which is a felony; while severe fines are imposed on those who sell such barrels without stamp.

Great guns, or cannons, and mortars, are chiefly cast in the public foundries at Woolwich, under the superintendence of the Board of Ordnance; but they are also cast on a large scale at the Carron Works in the county of Stirling. Indeed the peculiar variety called a carronade derived its name from having been originally manufactured there.

Muskets form an important item in our list of exports. Our principal rival in this branch of trade is Belgium, from whence they are sent in considerable quantities to America, Egypt, Turkey, Germany, Italy, and Spain. They are chiefly manufactured at Liege, where about 260,000 muskets and 90,000 pistols are made annually, many of inferior quality. A vast number of this description are sent to Brazil for exportation to the coast of Africa in exchange for negroes. [GUNPOWDER.]

GUNNY, a strong coarse fabric extensively manufactured in Bengal, chiefly from the fibres of the plant called paat, or bhangee (*Corchorus olitorius*). It is used in making bags or sacks for sugar and other similar commodities; and the bags themselves form a considerable article of export from Calcutta.

GUNPOWDER (Du. *Buskruid*. Fr. *Poudre*. Ger. *Pulver*. It. *Polvere*. Por. *Pulver*. Rus. *Poroch*. Sp. *Polvora*), a composition formed of nitre, sulphur, and charcoal, finely powdered, and very accurately blended. The usual proportions used in this country are as follow:—

	Common Powder.	Government Powder.	Shooting Powder.	Shooting Powder.	Miners' Powder.
Nitre.....	75	75	78	76	65
Charcoal.....	12½	15	12	15	15
Sulphur.....	12½	10	10	9	20

The proportions of commercial powder, however, vary indefinitely, according to the views of the manufacturer respecting markets and prices. The nitre being the expensive ingredient, the proportion of this is diminished, and those of the charcoal and sulphur increased, where cheapness is the leading object. The worst is that used for the Guinea trade; that usually exported to Canada and Turkey is also of inferior quality.

In the manufacture of powder minute attention is paid to the purity of the ingredients: they are mixed together with great caution, and pounded with wooden

pestles in water, and formed into a kind of paste. The mixture is granulated *corned* by being passed through sieves. After this it is glazed in revolving barrel and then carefully dried. The more minutely the materials are ground, and the more intimately they are mixed, the greater is the explosive power. The strength also depends in a great measure on the drying. When well prepared, the powder on being exploded on a piece of paper, should leave no residuum : if any particles remain, it shows either that the ingredients have not been pure, or not in proper proportion. The quality, however, is best tested by the *eprouvette*. Gunpowder if much exposed, absorbs moisture, and it should therefore be kept as much as possible excluded from the air. It is usually packed in barrels, each weighing 100 lbs., half barrels of 50 lbs., or quarter barrels of 25 lbs.

The various uses of gunpowder are too well known to require description. The quantity consumed in this country is immense ; besides which 4,000,000 lbs. are estimated to be exported every year, the greater part of which is sent to the coast of Africa. In the public accounts, its exportation is included under the "arms and ammunition," the annual declared value of the whole being about £400,000, mostly sent to Africa, India, Mexico, Turkey, United States, Australia, and Brazil ; considerable quantities, however, are likewise taken to British America and West Indies, Spain, and Holland.

The manufacture and sale of gunpowder are regulated by different statutes, particularly the 13 Geo. III. c. 61, and 54 Geo. III. c. 159.

No dealer shall keep at one time more than 200 lbs., or if not a dealer, more than 50 lbs. within London or Westminster, or three miles of these cities ; or within any other town, or within one mile thereof ; or within two miles of any of the king's palaces or magazines ; or within half-a-mile of any parish church ; or in any other part of Great Britain except in the usual mills and magazines on pain of forfeiture, and 2s. per lb. But for the use of any mine or colliery 300 lbs. may be kept if within 200 yards thereof, and not within any of the above-mentioned limits.

Justices are to license the erection of mills and magazines for keeping unlimited quantities except within the above limits.

No more than 25 barrels of gunpowder to be carried at one time by land, nor more than 10 barrels by water (except for exportation or coastwise), and the barrels shall be closely joined without iron ; and each shall not contain more than 100 lbs.

No master of any vessel, outward bound from London, shall receive on board, except for the king's service, more than 25 lbs. before her arrival at Blackwall ; and the master of every vessel coming into the Thames shall put on shore, in proper places, all the gunpowder on board exceeding 25 lbs., either before the arrival of such vessel at Blackwall, or after, within 24 hours, if the vessel permit, on pain of forfeiture, and 2s. per lb. The Trinity House empowered to appoint searchers.

Gunpowder may not be imported into the United Kingdom without license, such license to be granted for the furnishing of her Majesty's stores only, on pain of forfeiture. Gunpowder may be warehoused. (3 & 4 Wm. IV. c. 52, §§ 58, 59.)

The early history of gunpowder is involved in obscurity. It is said to have been used in a very remote period in China and India ; but it was unknown in Europe before the latter part of the 13th century. Early in the next century it was applied to the purposes of artillery. The *bour* narrates that "crakys of war" were used by Edward III. in his first campaign against the Scots, A. D. 1327 ; and it is known that cannons were used by that monarch at the battle of Crècy, as well as at the siege of Calais in 1346 ; but the ancient war-engines continued to be partially employed in sieges for nearly two centuries afterwards. The use of muskets and other arms was subsequent to that of cannons ; and down to the end of the reign of Henry VIII. the bow continued to be the principal weapon of the English army. During the reign of Elizabeth, however, an entire change took place, and the use of firearms became general.

GUZ, an oriental measure of length, varying in different places from about 2 to 3 feet.

GYPSUM, a native sulphate of lime, different species of which are found in this and many other countries. The crystals are softish, commonly transparent, and of various colours. A beautiful fibrous variety called *satin gypsum* is found in Derbyshire, applicable to ornamental purposes, such as beads and brooches. *Fulminant* or *Marbre di Bergamo*, is a beautiful variety employed in statuary. A pure white species is known under the name of *Alabaster*. A common kind of it is converted into *Paris plaster* or *stucco* ; and in some places where it is abundant it is employed as mortar, and as a top-dressing for grass lands.

II.

HADDOCK, a fish of the cod family (*Morrhua æglefinus*, Cuv.), common throughout the British seas, especially on the E. coast betwixt Yarmouth and the Tyne ; ordinary weight 2 to 4 lbs. Haddocks swim in immense shoals. They spawn in February and March, and are in the best condition for the table in October, November, and December. Those cured at the village of Finnan, near Aberdeen, are held in high estimation.

HAIR (Fr. *Chereu*, *Crin*. Ger. *Haar*.) Human hair forms an article of some importance in trade, and a considerable quantity is imported, especially from France, for the making of wigs. It is preferred when long, fine, and dark coloured. The hair of the lower animals is applied to different purposes. That of the miniver, martin, badger, polecat, and other beasts, is used in the manufacture of hair-pencils; while the coarser hair of the dog, wild boar, hog, and others, is made into brushes. Horse hair is extensively used by the upholsterer, and for fishing-lines, as well as in a variety of the arts. As an object of trade, this is classed into two kinds; the short curly, and the long straight. The former is spun into a cord, and boiled, to give it the tortuous springy form. The latter is woven into a kind of cloth, used for sieves, the damask haircloth of chair-bottoms, and other purposes.

HAKE, a species of cod (*Merlucius vulgaris*, Cuv.) found in the northern seas and Mediterranean. It is abundant on the S. coast of England, in the Bay of Galway, and on the Nymph Bank off Waterford. From January to April is its season for spawning. "It is a coarse fish, not admitted at the tables of the wealthy; but large quantities are annually preserved, both by salting and drying, part of which are exported to Spain." (*Farrell's British Fishes*.)

HALIFAX. [NOVA SCOTIA.]

HAMBURG, one of the Hanseatic states, is situated near the mouth of the Elbe, between Hanover and Holstein, and comprises the city of that name and adjacent territory, with some islands in the river, and a few parcels of land on the south side of it. Area about 150 square miles. Population nearly 150,000, of which the city contains 128,000, mostly Lutherans, but including a number of Jews. The government is republican; the executive and legislative powers are vested in a senate of 36; but no laws can be made nor taxes imposed without the consent of the *burgerschaft*, or general body of the citizens, who are represented by three colleges.

The city of Hamburg, the most important commercial emporium of the continent of Europe, is situated in lat. 55° 31' N., long. 9° 58' E., on the N. bank of the estuary of the Elbe, and E. bank of the Alster, about 75 miles from the North Sea. It was formerly fortified, but having suffered much during the late war, its ramparts have been since levelled, and converted into public walks. It, however, still resembles most of the old fortified towns of Germany, the streets being in general narrow, dark, and dirty, and the houses commonly of brick, ill-built, and old-fashioned; and though some of the streets in the new town are broad and regular, the appearance of the whole is uninteresting, almost the only enlivening feature being the inner lake of the Alster and the adjoining walks. Hamburg also resembles a Dutch town in being intersected by canals; these are filled by the Elbe and the Alster, and almost all the warehouses are close to them. The city possesses numerous sugar-refineries, breweries, and distilleries; also manufactures of ropes, sailcloth, anchors, hats, soap, cotton, and woollen and linen fabrics, and a variety of other articles; but they are in some respects less prosperous than formerly. The shipping belonging to the port (from 25,000 to 30,000 tons), which is inconsiderable compared with its trade, is mostly employed in transatlantic commerce and in coasting.

The Elbe, in the lower part of its course between Harburg on its left bank, and Hamburg and Altona on its right, is divided into several arms by five large and seven small islands, which however unite again in a single channel at Blankenese, about five miles below Hamburg. The arm opposite to the city, though not large, is deep enough at ordinary tides for vessels drawing 14 feet, and at spring-tides for those drawing 18 feet. There is a kind of inner harbour in the town, formed by an arm of the Elbe, fitted for small craft; but there are no docks nor quays, and ships of moderate size are moored in the river to piles fixed a short distance from the shore; while the largest kind not unfrequently load and discharge their cargoes, by means of lighters, off Cuxhaven, a small town subject to Hamburg, at the mouth of the river, where also quarantine is performed. The tide rises at Hamburg from 5 to 12 feet; and flows for about 20 British miles above it. The scene presented by the Elbe contiguous to the city is in a high degree animating,—a complete forest of ships of all nations, and from every quarter of the globe. The number of sea-going vessels that enter inwards annually is nearly 3000, about one-third being from Great Britain; besides which there are an equal number of river-craft. The port is also frequented by numerous steamers, including regular packets to London, Hull, Havre, and Amsterdam.

The immense commerce of Hamburg is produced by the liberal policy it has adopted, trade being here as free as can be desired; and by the situation of the town at the mouth of the Elbe having rendered it the entrepôt for the trade of the populous and industrious districts watered by that river (navigable by barges to Meinel in Bohemia), and the numerous natural and artificial communications with it. Of these last the principal are the connexion with the Oder, partly by the Spree, and with Lubec and the Baltic by means of a canal which joins the Elbe to the Trave. The trade may be said to embrace every thing that can be bought or sold, however costly, or however mean; and the total annual value of the exports and imports is estimated at upwards of £15,000,000. The exports embrace all articles of German produce and manufacture, besides corn, iron, tar, tallow, and many other commodities, brought from the countries adjoining the Baltic, of which Hamburg is also to some extent an emporium. The imports principally consist of tropical produce; wine, brandy, olive-oil, fruit, and other articles from the S. of Europe; and above all of British manufactures.

Of tropical commodities, the principal are sugar and coffee, large quantities of which are brought from Brazil, Cuba, Hayti, and Porto Rico. In 1838, the quantity of the former imported, including also refined sugar (forming about 1-6th of the whole), and syrup, was 97,005,000 lbs., and the quantity imported by way of transit (that is, such as is brought to Hamburg direct, and not

exchanged while in the city), 5,953,500 lbs.; coffee, 48,900,600 lbs., and in transit, 8,90 In the same year, there were brought of tobacco, 9,734,000 lbs., and in transit, 3,203,000 dago, 1,582,000 lbs., and in transit, 1,413,500 lbs.; cocoa, 1,505,000 lbs., and in transit lbs.; rice, 8,055,000 lbs., and in transit, 2,434,000 lbs.; cotton, 11,758,000 lbs., and 6,405,000 lbs.; tea, 1,301,000 lbs., and in transit, 69,200 lbs.; besides large quantities of rican hides, cigars, ivory, saltpetre, cochineal, rum, and a variety of other articles. The of wine imported in 1838 was 48,040 hhds., and in transit, 15,770 hhds.; olive-oil, 1,100 and in transit, 707,200 lbs.; currants, 2,637,000 lbs., and in transit, 1,753,100 lbs. 7,000,000 lbs., and in transit, 4,770,100 lbs.; silk, 120,400 lbs., and in transit, 90,700 lbs.

The trade with the British islands forms a highly important, though scarcely an aggregate of the whole trade of the Hanse Towns with the United Kingdom is given for years in Dr Bowring's "Report on the Prussian Commercial Union" (App. p. 114). (tar the greatest portion belongs to Hamburg; that of Bremen being comparatively and Lubec quite trifling. The following are the averages of the amounts for each of the ending 1834 and 1838 respectively:—

	Average of the five years 1829-1833.	Average five years 1834-1838
<i>Official Value</i> of Imports into the United Kingdom.....	£1,404,216	£1,341
— Exports from the United Kingdom, viz.		
British Produce and Manufactures.....	8,801,920	8,634
Foreign and Colonial Merchandise.....	1,687,596	1,822
<i>Declared Value</i> of Exports of British Produce and Ma- nufactures.....	4,358,650	4,685

Of British manufactures, nearly one-half now consists of cotton yarn and twist, for of the weavers of Saxony and other parts of Germany; the chief other articles are cot woollen, and woollen yarn, iron and hardwares, linen yarn, linen cloth, machinery. The exports from Hamburg to the United Kingdom consist principally of sheep's wool scarce years, of corn; to which may be added seeds, especially rapeseed, smalts, w furs, particularly fitch and martin, bristles, geneva, and some descriptions of cotton goods.

The British trade likewise comprehends the importation into Hamburg of tea, wine tobacco, gums, especially shellac, furs, pepper, pimento, cassia, cotton-wool, rum, and reign or colonial articles direct from the United Kingdom; besides large quantities sugar, and other tropical productions from the places of growth, particularly Brazil; w siderable portion of the general business of the town is conducted by English residents there are from 1000 to 1500. In the year 1838, the aggregate burden of the British ves arrived amounted to 168,186 tons; of which, steamers from the United Kingdom w cargoes, 62,046 tons; sailing vessels from do. with general cargoes, 47,161 tons, and 32,668 tons; from Brazil, 11,570 tons; from other parts of S. America, 299 tons; from dies, 3137 tons; from other countries, 3360 tons; and in ballast, chiefly to load for New which receives its salted provisions mostly from this port, 7345 tons.

The corn-trade is a department of considerable importance, Hamburg being, next to the chief entrepôt where the grain of the N. of Europe (including the territory water Elbe) is deposited to wait for the best market. In dear times it is brought from parts as Bohemia; but the principal supply is derived from Holstein and the Lower Elbe, the w duced in which being coarse and damp, causes the general average of prices to be low market of Hamburg than in Dantzic, where they are of superior quality. The quantity exported in the ten years ending 1827 was 675,744 quarters, of which 403,533 quarters to Britain. In the next ten years, ending 1837, the exports of wheat amounted to 1,528 barley, 255,700 qrs.; rye, 352,200 qrs.; oats, 83,600 qrs.; beans, 31,050 qrs.; pease, 62 brank, 8000 qrs.; rape-seed, 130,050 qrs. In 1838, the quantity of wheat exported w qrs.; of which 220,700 qrs. were conveyed to Britain.

Hamburg is not a member of the Prussian Commercial Union, and it is not though willingly surrender those principles of free trade which have so much contributed to b tion and prosperity. Still, however, opinions in favour of joining this association are among the merchants and wealthier classes, though not among the citizens, or *burgers* have their property mostly invested in warehouses, whose value would be greatly low adherence to the Union, as it is probable no goods would then be warehoused, except i ment bonding stores. On the 31st December 1839, a convention was concluded between and the Union, giving several facilities to trade.

MEASURES, WEIGHTS, MONIES, DUTIES, &c.

Measures and Weights.—The ell of 2 feet or 6 palms = 22.58 Imp. inches; the Brabant ell = 27.58 Imp. inches.

The ohm, liquid measure, of 4 ankers, 5 eimers, 20 viertels, 40 stubgen, or 160 quarters = 31.87 Imp. gallons; 6 ohms = 1 fuder; the faas of wine is 4 oxhasts, or 6 tierces.

The wispel, corn measure, of 10 scheffels, 20 faas, or 40 himtens = 29 Imp. bushels; 3 wispels = 1 last of wheat or rye, = 1 stock of barley or oats, = 10½ Imp. quarters; and 2 wispels = 1 last of barley or oats = 7½ Imp. quarters.

The pound consists of 2 marks, 16 ounces, 32 loths, or 128 drachmes; and 100 lbs. = 106.82

lbs. avoird.; the centner of 112 Ham or 8 lisponds = 119.64 lbs. avoird.; 2 = 1 shipfund.

A stone of wool or feathers is 10 lbs.; a stone of flax, 20 lbs.; a small butter, 224 lbs., a great do. 280 lbs.; a q train oil of 2 tonnes or 64 stubgen is re 4 centners or 448 lbs. net; and a pip 820 lbs.

The mode of estimating the weight ness of the precious metals is explain the head GERMANY.

Money.—Accounts are stated in mar ed into 16 schillings, each schilling con

With the exception of the Hartz, a chain of detached mountains on the S. front consists of an immense plain, a considerable part of which, called the "Arabia of Europe," is composed of vast sandy tracts, wholly unfit for tillage. The fertile lands are confined to the rivers Elbe, Weser, and Ems, and their affluents; and to the flat coast of these rivers have resulted from its ravages an expanse of very rich meadows,—the alluvial plains at the mouths of the Elbe and the Weser. The disadvantages of the soil are counterbalanced to the same degree as in other parts of Germany. Potatoes, the principal food, are universally reared, and rye is generally grown for bread; barley and oats are raised to an extent that leaves a surplus for exportation; but the quantity of wheat is insufficient for the demand. About a sixth or a seventh part of the surface is covered with forest, yielding about 22,000,000 cubic feet of timber yearly; the principal woods are the Hartz district, and of beech and oak in Kalenberg, the Upper Weser, and the Oker. Grazing husbandry is extensively prosecuted, but, excepting the rearing of horses and cattle, the minor articles of rural produce are, flax, hemp, tobacco, hops, cranberries, &c.

The mines form an important source of wealth, but they languish under the oppression exercised by the government. The most productive are those of lead and silver, and from the vast forests of which fuel is readily obtained for working them. Iron is diffused over the hilly districts, but the produce is comparatively inconsiderable. Minerals are salt, copper, zinc, and vitriol.

The manufactures are very numerous, but none of them extensive. Woollen cloth is made at Göttingen, Münden, and some other towns; but perhaps the most important is that of linen, which is chiefly a domestic manufacture; there are, however, about 5000 hands employed in weaving, the linen cloth produced by whom are well known in foreign markets, of Osnaburg and white rolls, while the hempen fabrics are known as Hessians, &c. The linen manufacture, it may be mentioned, is maintained without any aid from the government.

Notwithstanding the advantages possessed by the country in respect to mineral resources, the trade is inconsiderable. The people have little enterprise, and of their surplus produce to other countries is mostly in the hands of the merchant of Hamburg. Hanover is not a member of the Prussian Commercial Union, but similar league with the states of Brunswick, Oldenburg, and Schaumburg Lippe. Articles of export are, linen, sheep's wool, corn, lead, butter, rye, hemp, iron, copper, coffee, sugar, wine, tobacco, hardware, woollens, cottons, and twist. It is stated by Dr Bowring at 422, containing about 15,000 bales, or 27,000 tons, one-half is engaged in foreign trade; but this is exclusive of small coasters and principal commercial towns are, Münden, at the junction of the Werra and the Oker, an active intercourse with the interior of Germany and the port of Emden.

Emden or Emden. In lat. 53° 22' N. long. 7° 12' E., the chief commercial place situated in the province of Aurich, formerly E. Friesland, a little below the mouth of the Ems into the bay of Dollart; pop. 12,500. It is very ancient and walled, and once of a Dutch town, being intersected by canals. It is a free port, but the trade, and in modern times has declined, the harbour being shallow, and even high-water, and even then not for vessels drawing more than 11 or 12 feet; it is a deep and safe roadstead. Shipbuilding and various manufactures are carried on, and fishing is prosecuted to a small extent. The exports, however, consist of produce of E. Friesland and Munster, of which it is the emporium, the import of French wine, and other commodities. About 700 vessels, aggregate tonnage 100,000, enter annually. The shipping which frequents the port consists now principally of Dutch, English, and French vessels.

MEASURES, WEIGHTS, MONIES, FINANCES, &c.

Measures and Weights.—The ell of 2 feet = equal to 2s. 10½d. sterling. It is commonly effected in dollars, and Louis d'or, as in Bremen. The coins are the George d'or, worth 100 shillings, and the George d'or, worth 100 shillings.

Finances.—The country is heavily taxed, and its revenue averages annually about 6,500,000 thalers. The direct imposts amount to about 1-3d, and about 1,200,000 thalers are derived from customs duties. The national debt is variously estimated at from 15,000,000 to 20,000,000 thalers.

HANSE TOWNS, a name given to certain towns situated in the N. of Europe, which formed in the 13th century an association called the *Hanseatic league*, having for its object the protection of mercantile property. It was so called from an old German word signifying union. The first point with the confederates was to press the seizure of merchant vessels by pirates, and the robbery of goods conveyed by land; the next was to obtain justice in regard to the claims of merchants' courts of law,—a matter of no small difficulty in those rude times. The town which took the lead in forming this association was Lubec, the trade of which had become considerable in the 13th century, chiefly from its position. Situated at the north-eastern point of the Baltic, it was the natural entrepôt for the trade of Russia, Poland, and Livonia, with the north-west of Germany; in the same manner as Hamburg, from its ready access to the North sea, was the fit port for communicating with the Netherlands and England. The distance between these towns being small (only 40 miles), frequent conferences took place in regard to their mutual interests; and the result was their concluding a treaty in the year 1241, by which they bound themselves to use their utmost efforts for the protection of trade. Brunswick, then the chief inland town in the north-west of Germany, and connected in trade with both Lubec and Hamburg, acceded to the treaty shortly afterwards; and in 1252, deputies from each of the three met at Lubec, where, among other arrangements of importance, they took steps for establishing factories in London, Bruges, and Novgorod in Russia. Being open to new members, they were joined in the course of the next century by a number of towns, such as Amsterdam and other ports in the Netherlands, Dantzic, as well as itself as for the lesser towns in the north of Poland, and Cologne, for the foremost trading places on the Rhine. The confederacy attained its greatest power in the 15th and 16th centuries, when the league comprised no fewer than 64 commercial places; and was capable of conducting extensive naval operations, and asserting its rights by force of arms. As civilisation diffused itself, however, in the north of Europe, and the different governments made a point of protecting their trade as well by sea as in their respective territories, less exertion was required on the part of the Hanse Towns. It became evident also from the example of Holland, that trade prospered most when each mercantile district or seaport was left to manage its own concerns. Hence a gradual relaxation in the bonds of the confederacy, so that during the last two centuries the name of Hanse Towns has been confined to LUBEC, HAMBURG, and BREMEN. These towns have still mercantile establishments in London and elsewhere; but they are occupied with the concerns of their constituents only, not with those of the former members of the league.

HARBOUR. [PORT.]

HARDWARE (Fr. *Clinquaille*. Ger. *Kurse waaren*). [IRON MANUFACTURES, &c.]

HARTSHORN. [AMMONIA.]

HATS (Fr. *Chapeaux*. Ger. *Hüte*. It. *Cappelli*. Por. *Chapess*. Sp. *Sombreros*), well-known coverings for the head, are of several kinds. Beaver or stuff hats, the finest, consist mainly of two parts,—the body, and the covering or nap; the former of which is made of fine wool and coarse fur (generally eight parts of beaver's fur, three parts Saxony wool, and one part of lama, vicunia, or "red wool"), mixed, felted, stiffened and shaped; the latter of beaver-fur, made to adhere to the body by the process of felting. Plate hats, a secondary kind, have the nap composed of the fur of the musquash, nutria, or some other fur of comparatively small value; and for hats of inferior quality, coarse wool is employed for the body, and coarser fur, or sometimes fine wool, for the nap. Stiff hats are a common kind without a nap; and the black glazed japan hats worn by sailors and others, have a body of coarse felted wool, and an outer covering formed of a thick coating of black varnish or japan. A description of the processes of manufacture would be out of place here; but it may be mentioned, that from the time the materials are brought into the great factories (as Messrs. Gieves & Co. of London) till the hat is finished, they engage the attention of from twenty to twenty-five distinct sets of workpeople. One of the most important is that by which the hat is rendered waterproof, an operation which is performed upon the felt body before the fur nap is added, by brushing on the former a composition of shellac, sandarach, gum-mastic, resin, frankincense, copal, caoutchouc, spirits of wine, and spirits of turpentine; the rectified naphtha made from coal-tar being,

Atherstone, Rudgeley, Bristol, and elsewhere; silk hats in Glasgow, and other large towns. In Lancashire, hoods are also made, for the supply of places where they are worked up. The annual hat manufacture of the United Kingdom is supposed to be about £4,000,000, but there are no data for forming a correct estimate.

Hats are exported in considerable quantities to the colonies; they go to Brazil and to the United States; the number taken by the last is comparatively inconsiderable. The exportations to other countries are small. The declared value of beaver and felt hats annually exported in the public accounts at nearly £1,000,000, which, however, is less than the amount of those exported in 1830, which was (£77,061 doz.) £1,000,000. The duty of 10s. 6d. each operating as a tax on the quantity imported is small, the duty of 10s. 6d. each operating as a tax on the quantity imported is small, the duty of 10s. 6d. each operating as a tax on the quantity imported is small.

Straw-hats, made chiefly of wheat-straw plaited in strips and sewed up, worn by men in some parts of the country, but only to a small extent; however, as is well known, much used by females. Another branch of trade will be found under the head *Straw-Plait*.

Coverings for the head, formed of willow, straw, bark, and other rude materials, among the manufactures of nations in an early state of civilisation; but the use of felt for this purpose belongs to a later period. At what time felted wool was first employed it would be difficult to say. It is known, however, to have been used in the 14th century, though felted hats were long articles of luxury, and worn only by the rich. In the reign of Queen Elizabeth they became common, and those of beaver were worn by men in some parts of the country, but only to a small extent; however, as is well known, much used by females. Another branch of trade will be found under the head *Straw-Plait*.

From the reign of Charles I. to that of William III., very broad brims were being found inconvenient, first one, and then two flaps, were made to turn up, and then a third flap was turned up, and the regular cocked hat was the result. During the ensuing fifty or sixty years, cocked hats of various sorts were much in vogue. In the reign of Queen Anne, when a third flap was turned up, and the regular cocked hat was the result. During the ensuing fifty or sixty years, cocked hats of various sorts were much in vogue. In the reign of Queen Anne, when a third flap was turned up, and the regular cocked hat was the result. During the ensuing fifty or sixty years, cocked hats of various sorts were much in vogue.

HAVANA. [CUBA.]

HAWKER. [PEDESTAL.]

HAY (Fr. *Foin*. Ger. *Heu*), a name applied in this country to rye-grass, clover, or sainfoin, when cut and dried for use as forage. Professor Low, no method of producing hay has been found comparable to the cultivated grasses. That made of natural grass, however, is the best. Hay, is the kind chiefly produced in England, especially in the west and in the districts adjoining London, in which last it is brought to perfection: it is also the kind principally made in Ireland, and in the districts of Scotland. Clover hay, either pure, or mixed with rye-grass, is common in the southern, eastern, and northern counties of England. Sainfoin hay is confined to those

greatly more. Hay, in the field-rick, weighs somewhat more than 112 lbs. per cubic yard; after being compressed in the stack, it weighs from 140 to 180 lbs., and when old about 200 lbs.

The sale of hay within the district including 30 miles around London, is regulated by the act 36 Geo. III. c. 88, which provides that the load of new hay shall, until the 4th September, be sold by the load of 36 trusses, each of 60 lbs.; the load thus weighing 1 ton. After 4th September each truss may weigh 56 lbs. only.

Straw is sold by the load of 36 trusses, each truss weighing 36 lbs.

HAYTI, HISPANIOLA, or ST DOMINGO, next to Cuba, the largest of the Antilles, is situated between lat. 18° and 20° N., and long. 68° and 75° W. It is separated on the E. from Porto Rico by the Mona Passage, and on the W. and S. W. from Cuba and Jamaica by the Windward Passage. Length, 400 miles, and breadth 150. Area about 25,000 sq. miles, nearly the extent of Ireland. Population vaguely estimated at 1,000,000, mainly consisting of mulattoes, and of the descendants of aborigines mixed with Europeans and negroes; the number of whites and negroes of pure blood is small. Capital, Port-au-Prince. This island, formerly divided between the Spaniards and French, is now an independent state, with a government nominally republican; the executive power being in a president chosen for life, and the legislative in a senate and a chamber of deputies: it is, however, in fact a kind of military despotism with republican forms.

Hayti is a very fine island. In the centre rise the lofty mountains of Cibao, in some places 8000 feet high, which are covered nearly to the summit with vegetation and noble woods, and from them descend numerous streams, which, uniting in four large rivers, bestow extreme fertility on the valleys beneath. From the Cibao hilly ranges branch off in different directions, running mostly from east to west. In some parts there are extensive plains; the largest of these, called Los Llanos, lies along the S. coast from the town of St Domingo eastward to Higuey, a distance of 80 miles in length, and 30 in breadth; but it is only a bare savannah, used for pasture-ground. It is separated by a low range from the fertile but ill-cultivated plain of La Vega, about 50 miles long, and 30 in breadth. Except on the E., where low and swampy lands prevail, the shores are in general bold, and almost every where surrounded by small uninhabited islands and dangerous reefs. The climate of the lowlands is hot, humid, and, for Europeans, very unhealthy. As in other tropical countries, the year is divided between the wet and dry seasons. [WEST INDIES.]

Prior to 1791, the island was celebrated for its extensive plantations of sugar, coffee, and cotton; and the average annual exports of the French portion consisted of 58,000,000 lbs. clayed sugar, 87,000,000 lbs. muscovado, 72,000,000 lbs. coffee, 7,000,000 lbs. cotton, 950,000 lbs. indigo, 23,000 hhds. molasses, besides rum, hides, and other articles, the value of the whole amounting to nearly £5,000,000 sterling. But the present population having few wants, and being enabled, from the abundance of fertile land, to obtain the bare means of existence with facility, engage only in the lighter kinds of labour; and the plantations have now almost entirely disappeared, except those of coffee, which are also much reduced. Cotton continues to be reared only to a very small extent. Maize, millet, cassava, plantains, and sweet potatoes are cultivated, and with coconuts, cabbage-trees, pine-apples, and garden fruits, supply the chief subsistence of the natives. But the principal commercial products are now derived from the forests, which yield mahogany and various dye-woods in great luxuriance. In the plains in the eastern districts there are numerous herds of cattle. The island contains mines of gold, silver, copper, tin, iron, and rock-salt; their produce, however, is at present trifling. The gold mines were at one time worked, but they have been long since abandoned.

The exports of the great staples, on an average of the three years 1835, 1836, and 1837, consisted of 38,953,482 lbs. coffee; 8,699,292 lbs. logwood and other dye-woods; 5,055,507 feet mahogany; and 1,245,148 lbs. cotton; considerable quantities of tobacco and cocoa were also shipped; the minor articles being hides, rags, wax, ginger, and sugar. These commodities are sent to Great Britain, France, the United States, Germany (principally Hamburg and Trieste), and Holland. The imports are, from Great Britain, cotton manufactures (£260,000); linen manufactures (£85,000); with small quantities of woollens, soap, and candles, earthenware and hardware; the whole, in 1839, amounting to about £400,000: from France, wine, brandy, silks, shawls, porcelain, gloves, and articles of bijouterie; from the United States, lumber and provisions; from Germany and Holland, linens, especially bagging, coarse woollens, and Rhenish wines. A contraband trade is besides carried on with Cuba and Jamaica, the intercourse with the latter being prohibited by the act 3 & 4 Wm. IV. c. 59. This illicit trade is chiefly prosecuted at Cayes, a flourishing port on the S. W. shore, where there are several British houses established. In 1836, the shipping that entered the six principal ports consisted of 369 vessels, burden 50,580 tons; and cleared 385 vessels, burden 52,485 tons. Of these there were of British ships, entered, 14 vessels, 12,807 tons; and cleared, 99 vessels, 15,127 tons.

The external trade is entirely in the hands of foreigners, who are treated with much illiberality, being burdened with a heavy license-duty, loaded with vexatious regulations in regard to their dealings, and confined as to their residence to the free ports. These last are, Port-au-Prince, Cape Haitien, Cayes, Jacmel, Gonaives, Puerto Plata, St Domingo, and Jeremie; the first being the chief emporium of the island.

Port-au-Prince, the seat of government, lies on the W. coast, in lat. 18° 32' N., and long. 72° 3' W., in the innermost recess of the bay of Gonaives. The streets are commodious, but the houses in general are low and mean; pop. 30,000. It has two harbours, formed by some islets, one of which afford secure anchorage.

In 1797, the western districts were ceded to France, natives of which country, as had previously settled there in an irregular manner. These districts were cultivated with great care, and additional parts of the island being afterwards obtained, the most valuable of their foreign possessions, especially after 1728, when the monarchical system was abolished. The prosperity of the island was at its height when, in 1790, insurrections arose among the blacks, which, in the course of a few years, led to the ruin of all the whites. After a time two republics were formed; but at length they were united under the authority of President Boyer, who, in 1823, also subdued the island. In 1825, the independence of Hayti was recognized by France, to which were granted as an indemnity for the losses of the colonists, this sum was at first 150,000,000 francs, of which fr. 50,000,000 have been paid.

The rights of citizenship are conferred on all Haytian citizens, of whatever origin, are the same for all. Whites are debarred from either becoming citizens or purchasing lands. Africans, or the descendants, are entitled to these rights after one year's residence. The Roman Catholic religion is established; but all other sects are tolerated. Religion, however, possesses no efficiency or influence in the state. The press is disesteemed, and the private habits of the people are chiefly characterized by idleness, extravagance, and dissipation.

HECTARE, the principal land measure in France = 2.471143 acres 1 rood, 35 sq. poles, 11½ sq. yards; or 17 hectares = 43 imp. bushels nearly.

HECTOLITRE, a French measure of capacity, = 22 imp. gall bushels nearly.

HELENA, ST. a rocky but verdant island in the S. Atlantic, which belonged to the British E. I. Co., and was surrendered by them to the French at the expiry of their charter in 1833. Area, 47 sq. miles exclusive of troops, 5000, consisting of Europeans, Chinese, and blacks. It is important solely as being a place of refreshment for ships, and as a depot for the trade of the coast. The climate is salubrious. James Town, the seat of government, and is in 15° 35' N., and 5° 49' W. There is a good anchorage, but the shore is generally strong, particularly about Christmas.

HELLIGOLAND, a small fortified island nearly 3 miles in circumference in the German ocean, in 54° 12' N., and 7° 53' E., about 30 miles from the Elbe, Weser, and Eyder; population 2400, chiefly fishermen and sailors. It was taken by the British from the Danes in 1807, and became a depot for the smuggling of goods into the continental ports during the war. In 1814, it was ceded to Great Britain, under whose government it still continues, but has lost its former consequence, but it would be again valuable in the hands of any of the neighbouring powers.

HELIOOTROPE, a variety of jasper occasionally marked with red spots, its vulgar name of *bloodstone*.

HELLEBORE is of two kinds, black and white. Black hellebore (*Helleborus niger*) indigenous to the Alps, Pyrenees, and Apennines, is in our gardens for the radicles or small branches of the roots, which is used in medicine as a purgative. White hellebore (*Veratrum album*) grows in Switzerland and the mountainous parts of Germany, and its d-

sive years without degeneracy. The seed is sown in northern countries towards the end of April or beginning of May, and the plant is pulled in autumn. Being dioecious (i. e. with male and female flowers on different plants) there are two harvests ; the first, of the male plants after they have discharged their pollen; the second, of the female, or seed-bearing plants, about a month later, when the seeds are ripened. The former is distinguished from the latter by its numerous flowers. After being pulled and dried, the female plants, besides being slightly thrashed in order to separate the capsules from the stems, hemp, like flax, is subjected to a steeping or water-rotting process, in order to destroy the texture of the glutinous substance which connects the fibres to the woody part of the stem. Sometimes the steeping process is omitted, and the hemp is simply dew-rotted, by being exposed, spread out on the ground, to the influence of rain and moisture. It then undergoes the several processes of drying, bruising, and scutching ; after which it is bound up in bunches and carried to market,—that which breaks off or is shaken out in these operations, termed *codilla*, being of much less value. The best is of an equal green colour, free from spills, and having a strong, fine, thin, and long fibre. The produce of fibre varies from 30 to 50 stones and upwards per acre.

Hemp then passes through various operations, according to the purpose to which it is to be applied. First it is heckled, and arranged into sorts,—the coarser being termed *shorts* and *tow*. It then passes into the hands of the spinner, of the whittier, and of the weaver by whom it is made into sailcloth, sacks, common towels and tablecloths, and other coarse fabrics. It is also very extensively used for the manufacture of cordage, but its employment for this purpose is less general since the introduction of chain-cables.

The plant is cultivated to some extent in the counties of Suffolk, York, Somerset, and Lincoln; but throughout this country generally it has been found less profitable than corn ; and with the exception of small quantities from Italy, and a few trifling shipments from other places, our manufacturers are almost exclusively supplied from Russia. It is principally shipped from St Petersburg and Riga ; the latter being, in general, the finest.

St Petersburg hemp, derived from the provinces of Kaluga, Orel, Kursk, Tula, Smolensk, Moulaff, and Tchernigoff, is distinguished by the braack, or sworn inspectors, into three sorts,—clean, outshot, and half-clean ; each in two classes, uncut and cut ; the bulk consisting of the former class. The distinctions of winter-dried, spring-dried, and middle-dried, sometimes noticed, afford no criterion of quality, each proving sometimes better and at other times inferior to the others. It is shipped in bundles ; that of clean weighs from 60 to 65 ; of outshot, from 50 to 60 ; and of half-clean, from 40 to 50 poods ; 63 poods being equal to the ton of 20 cwt. The supplies are brought from the interior chiefly by water, the principal part arriving in June and July, the rest later. In the winter season (from November to May), purchases are sometimes made in anticipation of the next supply, part or all the price being paid in advance, and sometimes purchases are made of "remainders" of that of the preceding year. The latter will, of course, be ready for early shipment, while the former, called "contract hemp," can seldom be exported before midsummer. But during summer, purchases may be made with the advantage of a better choice of qualities ; though in general not only the exchange but prices are then higher than during the contract season, when dealers sometimes make cheap sales in order to raise money. The supply brought annually to the St Petersburg market is valued by Mr Clark in his "*Russia Trader's Assistant*," (*Exports*, p. 59,) at £1,000,000, provided by 24 or 25 traders.

Riga hemp is distinguished by the braack as Ukraine, Polish, and Druyaner, each of these kinds having the following gradations of quality :—Rhine, or 1st sorts, marked U R H, P R H, and D R H : Outshot, or 2d sorts, marked U O H, and P O H (none of Druyaner) : Pass, or 3d sorts, marked U P H, P P H, and D P H : Codilla, marked H C. Purchases are made at this port in the same manner as at St Petersburg. The annual exports from Riga amount to about £20,000.

The following from the Dundee price current of 9th August 1841 shows the comparative estimates in which the different kinds are held in the principal British market :—

Riga,....Rhine,.....£41 0 0 to £	Petersburg, Clean,.....£30 0 0 to £40 0 0
.... Outshot,.....38 0 0 .. . . . .	.... Half-Clean,....33 0 0 .. 34 0 0
.... Pass,.....35 0 0 .. 36 0 0	.... Codilla,.....18 10 0 .. 19 0 0
.... Codilla,.....19 0 0 .. 20 0 0	India Jute.....15 0 0 .. 16 0 0

During the last war, the price of hemp was subject to great fluctuations ; rising from £25 a-ton in 1792, to £118 a-ton, the rate at which it stood in 1808 under the influence of the restrictions imposed by the Milan and Berlin decrees. Subsequently to 1815, it has oscillated between £24 and £50 a-ton. The import duty on undressed hemp since 1832 has been only 1d. per cwt. ; on dressed, it is £4, 15s. per cwt., which is prohibitory.

Besides common hemp, a variety of other vegetable substances of the same nature, as coir, jute, and sunn, are imported into this country, in increasing quantities, from Ceylon, India, and the Philippines, and applied to the same purposes ; and the

France.....	37	31	15	7
Asia.....	80,408	21,067	170,259	131
America, chiefly United States.....	3,157		5,347	
Other places.....	4,512	3,703	3,208	8
Total imported.....	87,539	886,032	773,631	736
Entered for consumption.....	645,122	807,892	681,613	735

In 1846, the quantities were, imported, 684,921 cwts.; entered for consumption, 645,122 cwts. The importations of codilla and tow of hemp are not distinguished in the port of FLAX.

HEMP-SEEDS, the produce of the *Cannabis sativa*, abound in a thin skin, and are sometimes used medicinally for the preparation of emulsions also obtained from them. About 10 or 12 bushels to the acre are obtained from them. The best are held to be those obtained from wherever procured, care should be taken that they are fresh, which by their being heavy, and bright in the colour. About 3500 quarters annually.

HEMP-SEED OIL, obtained from the seeds by pressure, is similar to linseed oil. It is of a green colour, and strongly impregnated with the odour of the plant. It is made in immense quantities in Russia.

In ancient times the hemp-plant appears to have been valued more for its use than for its adaptation to the manufacture of cordage. It contains a decoction of great energy; and in various eastern countries, an infusion of the leaves is used for inducing the drowsy ecstatic feeling for which opium is esteemed. The very fine, are also mixed with tobacco for smoking.

HENNE, a reddish-brown substantive dye procured from the Egyptian privet (*Larsonia inermis*), is used extensively by Egyptian females for colouring certain parts of their hands and feet. It is in the east for dyeing ordinary stuffs.

HERRINGS (Dn. *Haringen*. Fr. *Harengs*. Ger. *Haringe*. Aringhe. Por. & Sp. *Arenques*. Rus. *Seldi*). The herring is a *rengus* ranked by Cuvier in the same order with the pilchard, chovy, and white bait. The body is covered with scales, the upper green according to the light, the lower part of a silvery white; 5½ ounces, and length 10 to 12 inches; owing to the gill-lids being opening wide, it dies almost the instant it is taken out of the water.

The opinion of Pennant that the herring periodically migrates from the Arctic circle to the British seas to deposit its spawn is rejected by gists. "The herring inhabits the deep waters all round the British approaches the shores in the months of August and September for depositing its spawn, which takes place in October or the beginning of November. It is during these months that the great fishing is carried on, for after

are considered the most favourable. It is supposed that nets stretched thus alarm the fish, and cause them to quit the places where they are pursued; it is therefore strictly forbidden." (*Yarrell's British Fishes*.)

Herring fishery has been prosecuted on the British shores from a remote period; its early history is involved in obscurity. The progress of the Dutch fishery is well known. There is a popular saying in Holland that "the heart of Amsterdam is laid on herring bones," in allusion to the fishery nearly been its great staple. Under the stadtholders this fishery was held as the right arm of the republic, and it was always entitled the "Grand

When in the height of its prosperity (about 1650), the total number of men it employed, including those engaged in bringing salt and exporting was stated at 6400, and the number of mariners and fishermen at 112,000. The ordinary progress of that people led to various measures in this country regulating the British fisheries. These measures assumed a variety of different times,—such as fishing towns built at the public expense,—a considerable royal patronage,—the strict observance of Lent,—remission of the duty on the importation, duty free, of foreign commodities received in exchange for fish,—lotteries,—collections in churches,—rendering it obligatory upon every man to take yearly a certain quantity at 30s. a-barrel,—and lastly, direct

These "encouragements" all failed in communicating any thing like the prosperity to the fishery; and some of them, particularly that of bounties, great abuses (*Wealth of Nations*, b. iv. c. 5). It would exceed the limits of this article to specify the different changes which took place in the bounty system; it may be mentioned, however, that in 1620, after various modifications, an bounty of 20s. a-ton, increasing under certain circumstances to 50s., was granted on all vessels of from 15 to 60 tons fitted out for the shore fishery, exclusive of 4s. per barrel on herrings cured gutted, and of 2s. 8d. per barrel on salted. In a few years afterwards, the principle of bounties was abandoned. In 1826, the export bounty was withdrawn, and the bounty of 4s. was re-established each succeeding year until 1830, when it ceased altogether.

The withdrawal of the bounties, so far from having injured the herring fishery, had the contrary effect. The fishermen, no longer encouraged to look to extra-bounty, and relieved from the intrusion of landmen who engaged for a few days in the fishery for the purpose of obtaining the bounty, have redoubled their industry, and are now better clothed, better fed, and more temperate than before; many cases they have been enabled by their industry to substitute for boats formerly used others of much larger dimensions, and to provide them with superior fishing materials. The following statement exhibits a comparative view of the fishery both before and subsequent to the abolition of the

No. of Vessels.	No. of Barrels Cured.			Barrels Branded.	No. of Barrels Exported.		
	Gutted.	Ungutted.	Total.		Gutted.	Ungutted.	Total.
1	65,430	26,307	91,737	46,002	18,180	19,253	37,433
2	108,372	54,767	163,139	83,376	68,936	72,387	141,323
3	347,190	15,301	362,491	309,700	244,006	9,420	253,426
4	303,307	44,878	348,185	270,844	201,802	134	201,936
5	390,623	40,623	431,246	218,418	177,776	3,878	181,654
6	217,842	60,075	277,917	86,074	145,225	2,401	147,626
7	307,334	98,281	405,615	169,317	270,846	2,547	273,393
8	290,077	107,600	397,677	114,192	187,238	2,027	189,265
9	262,404	125,375	387,779	141,532	229,160	8,867	238,027
10	392,929	173,311	566,240	153,626	233,690	6,140	239,830
11	410,732	130,455	541,187	170,231	253,863	1,908	255,771

are brought to market in three forms: *fresh herrings* are the condition in which they are taken from the sea; *white or pickled herrings* are merely salted in barrels; *red herrings* are gutted and salted, and afterwards hung up with the smoke of green wood. Fresh herrings are consumed in considerable quantities in towns adjoining the coast; but it is the pickled and red herring form the great objects of the fishery. The *boat fishery* is that chiefly when the fishing ground is not at a great distance from the shore. The *fleet fishery*, where the fishermen go out to sea wherever the fish are to be procured, vessels of a larger description (generally from 30 to 80 tons), as the fish are pickled and stowed on board. The vessels fitted out for this fishery must with the earliest and best herrings; and owing to the circumstance

of the fish deserting parts of the coast which they have been accustomed to frequent, it is a more regular source of profit than the boat fishery, though it requires larger capital. The British cured herrings, though now much better than formerly, are still inferior to the Dutch: the British fishery, depending for its prosperity upon quantity rather than quality.

The fishery is mostly on the N. E. coast, particularly at Wick and Dunbar; it is also pursued extensively in the Orkney and Shetland Isles, on the W. coast of Scotland, Isle of Man, Yorkshire coast, and at Yarmouth, where red herrings are largely cured for the home market. A great proportion of the Scotch cured herrings is sent to Ireland, especially to Limerick, and exported to foreign parts. In 1839, the total exportations from the U. K. were, to British W. Indies, 12,344 barrels; Prussia, 62,073; Germany, 18,021; Russia, 6074; Italy and Sicily, 29,648; Mauritius, 3340; Australia, 1760; other countries, 4429; total, 137,689 barrels; declared value, £143,067. The market abroad is much less extensive than it might be if no impediments were offered by heavy duties. In Spain, Portugal, Italy, and India, the consumption might be rendered much greater.

Notwithstanding the repeal of the bounties, the fishery is still under the surveillance of a "Herring Board," which has officers at the different fishing stations, to superintend the curing department, and who affix an official brand to barrels containing a certain quality of fish.

The "British Society for extending the Fisheries and improving the Sea Coasts" is a patriotic joint-stock company, which was incorporated in 1786, for building stations in the Highlands and Islands of Scotland. No dividend has yet been made by the corporation; but it is still expected that their lands, harbours, and buildings, may yield a rent.

The last of herrings is 13,000. The barrel is 32 old English wine, or 26½ Imp. gallons. The cran is 45 wine, or 37½ Imp. gallons. A cade is 500 herrings.

HICKORY, a tree (*Carya*) common in this country, and growing on a large scale in many parts of the United States. Several species are recognised, though no difference can be distinguished in their timber, which is cross-grained, red at the heart, heavy, and exceedingly tough and strong; but it is subject to be attacked by worms, and it decays quickly when exposed to the weather. It is chiefly employed for carriage-shafts and springs, large screws, chair-backs, hoops, whip-handles, and similar purposes. The hickory was formerly combined with the *Juglans* or true walnut; but it is distinguished by the shell of its nuts not being deeply furrowed. The nuts of one species (*C. oliviformis*), called Pecan nuts, form a small article of N. American trade.

HIDES (Du. *Huiden*. Fr. *Peaux*. Ger. *Häute*. It. *Cuoja*. Por. *Pelles*. Rus. *Koshi*. Sp. *Pellejos*, *Pieles*), the skins of cattle, form an important branch both of our inland and foreign trade. Various kinds are distinguished. Raw or green hides are those in the state in which they are taken from the carcass: salted hides are those dressed or seasoned with salt, alum, or saltpetre, to prevent them from putrefying; and tanned or cured hides. The animals whose hides are met with in commerce are the ox, buffalo, and horse. The buffalo hide is larger and heavier than that of the ox, and is, besides, distinguished by a tuft of hair on the shoulders. Losh hides are buffalo and others dressed in oil in the same way as chamois skins. Muscovy or Russian hides are tanned and coloured of a brown or red colour. The quantity of untanned hides annually imported into the United Kingdom is now from 350,000 to 400,000 cwts., fully seven-eighths of which are entered for home consumption. Upwards of one-half of the whole importations is from Buenos Ayres; considerable quantities are likewise brought from Brazil, the East Indies, Cape of Good Hope, and United States; while smaller shipments are made from the N. of Europe, Morocco, Philippine Islands, W. Indies, Australia, and other places. The importations of tanned hides, owing to the heavy duty, are inconsiderable, seldom exceeding in a year 100,000 lbs. [LEATHER. SKINS.]

HIMTEN, a German corn measure, varying in different places.

HIRING. [BAILMENT. CARRIERS. CHARTER-PARTY. SHIPPING. MASTER AND SERVANT. PRINCIPAL AND AGENT.]

HOG, one of the most useful and widely distributed of the domestic animals. It possesses extraordinary fecundity, lives and thrives on almost every kind of food, and converts a given quantity of aliment into fat sooner than any other animal. Of the domestic hog (*Sus afer*) numerous varieties are distinguished. In England, the chief are—the Chinese hog, of eastern origin, small in size, delicate of aspect, and remarkable for its fecundity and disposition to fatten; the Neapolitan, smooth and black, also highly prolific, though not hardy; the Berkshire, middle sized,

h-white colour, with brown or black spots, is much esteemed, the most pread of the native breeds, and is that commonly fed in distilleries; the , chiefly of a white colour, is the best of the larger classes. Other list in various counties. In Scotland, there are several mixed kinds. , they are usually of a large size and coarse form. In the hog, the same aracters indicate a disposition to fatten, as in other live stock. "The d be deep and broad, the ribs largely arched, the neck short, and the mbs small; the bristles should be soft, approaching to hair, and the id elastic." (*Low's Agriculture.*)

ial is fed for two purposes. The one is to yield pork, which may be fresh, salted, or pickled, and for which the pigs are ready in 6 or 8 ie other is to produce bacon, prepared by salting and drying the flesh, ich they are ready in 10 or 12 months. The smaller class of early feed-preferred for the former purpose, the larger class, as the Hampshire, for

In the case of pickling pork, the carcass is cut into pieces, and packed arrels. When designed for bacon, the body is cut so as to separate the s from the flitches or sides: It is generally cured in the cold months, mber to April. The flesh of the hog is highly nutritive, and it forms t of the animal food of the labouring classes of many countries, espe- and; while, from its ready reception of salt, it is better fitted for pre- an any other flesh, and is thus eminently adapted for sea voyages, urpose it is largely used.

nd, Yorkshire and Westmoreland are distinguished for the quantity of their hams. The best bacon is made in Wilts, Hampshire, and it the English hams and bacon are now confessedly rivalled by those of counties—Dumfries, Wigtown, and Kirkcudbright—large quantities re shipped to Liverpool. In Ireland, hogs are very generally reared, ng an inmate of almost every cottage; and large quantities of pork, hams, are sent from thence to Liverpool, Bristol, and Glasgow. They atively coarse and ill flavoured, an inferiority resulting as well from as from want of skill and attention in the process of curing. The rom Ireland to Britain in 1825 were,—bacon and hams, 362,278 cwts.; ork (not separated in the public accounts), 604,253 cwts.; and in 1835, hams, 379,111 cwts., estimated value, £828,158; and beef and pork, s., value, £723,935.

ortations from the United Kingdom have increased of late years, and in antities and declared value were as follow,—bacon and hams, 31,519 431; beef and pork, 66,222 barrels, £227,465; sent mostly to the W. in small quantities to British America, Australia, Cape of Good Hope, India, Spain, and other places. The importations, owing to the heavy ifling.

EAD, a British measure of capacity prior to the introduction of the Im- m. The wine hogshead contained 63 wine gallons = 52.49 Imp. galls. shead contained 54 ale gallons = 54.92 Imp. galls.

JT, a large flat fish (*Hippoglossus vulgaris*), sometimes confounded , but much inferior in quality. The flesh, though white and firm, is ut little flavour. Its capture is principally confined to the northern

ND [NETHERLANDS, KINGDOM OF THE].

RAPH, in the law of Scotland, is an expression used to designate a , from being wholly in the handwriting of the granter, is, to a certain ileged, and probative without the solemnities which other deeds require ution.

RAS (BRITISH), a settlement extending along the E. coast of Central etween lat. 15° 54' and 18° 30' N., and long. 88° and 90° W. Area,

Population in 1839, whites, 235; coloured, 7700; total, 7935. It is y a superintendent, who is assisted by seven councillors elected annually. s studded with low coral isles, called keys, and the coast is rocky but flat; the land, dually rises into a bold and lofty region, interspersed with rivers and lagoons, and noble forests. The country is rich in vegetable productions, and arrowroot and a to a small extent, but cultivation is neglected, and the inhabitants chiefly employ wood-cutting, principally the mahogany tree, of which this district is the chief seat. , natural produce. The exportations in 1836 consisted of 9,768,293 square feet of 12 tons logwood, 3585 tons cochineal, besides hides, cocoa-nuts, cedar, turtle, and

only town and port, is built on both sides of the river of that name, in lat. 17° 30' N., f. The houses, constructed of wood, are raised 8 or 10 feet from the ground, on

pillars of mahogany: pop. about 540. There is excellent anchorage for vessels of moderate size, which is protected by the numerous keys from the heavy swells of the open sea. Besides the exportation of the produce of the colony, Belize has of late years become the depôt of British manufactures and foreign merchandise designed for the consumption of Central America, which are forwarded thence to Izabal and Omoa.

The imports as well as exports of Belize, and the colony generally, are estimated to amount to between £400,000 and £500,000. In 1839, 107 vessels entered, of which, belonging to Great Britain, 81; British colonies, 4; United States, 22.

The measures and weights are British, and accounts are kept in pounds, shillings, and pence currency. The nominal par of exchange with England is £140 Honduras currency per £100 sterling, but the premium on mercantile bills is always considerably higher. In 1837, the premium was about 18 per cent., and in 1838, from 18 to 20 per cent. The Spanish dollar is valued at 6s. 8d. currency, the doubloon at £3, 6s. 8d. currency. The public revenue amounts to about £20,000.

The British occupation of this coast appears to have been commenced by smugglers and logwood cutters from Jamaica, in the 17th century. In 1754, the settlers were expelled by the Spaniards, but permitted to return in 1763. In 1779, they were again expelled, but restored in 1783. The colony was once more attacked by the Spaniards in 1788, but unsuccessfully; and the coast from the Rio Hondo, on the N., to the Sarstoon river on the S., with the adjacent country, is now considered to belong to Great Britain by right of conquest.

HONE, a fine kind of stone, imported from Germany and Turkey, used for sharpening or setting cutlery. It is of a green colour, inclining to yellow, often marked with thin dendrical lines, and is moderately hard, having a fine close texture resembling indurated clay.

HONEY (Fr. *Miel*. Ger. *Honig*. It. *Miele*. Sp. *Miel*), a well-known product of the bee. Its taste is pleasant and sweet; smell balsamic, and various, according to the flowers from which it is collected. When new, it is viscid, thick, and smooth; when old, crystalline and granulated. The best is that which is freest from colour, and contains the largest grains when it concretes. That obtained from young bees, and which flows spontaneously from the combs, is the purest and finest; it is known by the name of *Virgin honey*. Honey separated from the wax by expression is less pure; and there is another sort still inferior, obtained by heating the combs before they are pressed. It is often adulterated, or originally bad. When collected where fetid flowers abound, as species of garlic, its smell is offensive. Genuine honey does not ferment spontaneously or mould. It is often mixed with water to increase its bulk,—a fraud known by its thinness, and having no tendency to granulate. More commonly flour is added as well as water. This kind also granulates very imperfectly, and the adulteration is detected by dissolving it in cold water, when the flour subsides. Honey is abundantly produced in this country. It is also imported from Narbonne in France and other places.

HOONDEE, in India, a native bill of exchange.

HOOPS, the circular bindings of casks or barrels.

HOPS (Fr. *Houblon*. Ger. *Hopsen*). The hop, a diœcious plant (*Humulus lupulus*), with a perennial root, is extensively cultivated in Kent, Sussex, and Herefordshire, on account of the female catkins, which, after being picked and kiln-dried, are used by brewers for giving a bitter flavour to beer, as well as for preserving it. Hops vary in produce from 2 to 20 cwts. per acre; from 10 to 14 cwts. is a favourable crop. The expense of forming new ground is frequently little less than £100 per acre. Warm seasons with little rain are required for good crops. Great heat after rains, and high winds, are particularly destructive, and they are exposed to numerous diseases and the ravages of many insects, so that their culture is both expensive and uncertain.

The finer flavoured and light coloured hops are pressed into *pockets*, or sacks, of comparatively fine cloth, which weigh about 1½ cwt. each, and are sold chiefly to the ale-brewer. The strong flavoured and high coloured hops are put into *bags* of a very coarse mat kind of texture, which contain generally double the weight of the pockets. These are used by porter and small-beer brewers. The fine flavour or aroma of hops does not exist a year. Beyond that time they become *old hops*; and are sold at a cheaper rate to the porter-brewer. A year or two longer, and the bitter itself disappears; and the whole becomes nothing better than chaff. The Nottinghamshire or *North-clay hops*, have the pre-eminence in rankness, and, accordingly, with a certain description of buyers, bear a higher price than the Kent, though that is not so high as the general price of Farnham hops. Of the Kent hops, the best are those grown near Canterbury (*"Art of Brewing," Lib. of Useful Knowledge*). The strength of hops is judged by the thickness and solidity of the catkins; and the flavour by the smell.

From 50,000 to 60,000 acres in England are occupied with hop gardens, about one-half being in Kent; and an excise duty of 18s. 8d. per cwt. is levied upon their produce (45 Geo. III. c. 94), for which, however, nearly a year's credit is allowed by 1 & 2 Wm. IV. c. 53. The quantities charged

were, in 1835, 49,088,709 lbs.; in 1836, 41,874,913 lbs.; in 1837, 37,295,304 lbs.; in 1838, 41,224 lbs.; and in 1839, 42,898,639 lbs. The amount of duty in 1839 was £357,488. Hops are exported to Hamburg, Antwerp, St Petersburg, New York, Australia, and other ports. The quantity imported is trifling, as the duty is of a prohibitory character. Hops reimported are to be deemed foreign.—(3 & 4 Wm. IV. c. 52, § 33.)

ERHOUND (WHITE), a common herb (*Marrubium vulgare*), the leaves of which are an article of the materia medica. They are of a whitish-gray, woolly texture, and possess a faint odour, and a bitter, sharp taste.

HORN (Fr. *Corne*. Ger. *Horn*) is distinguished from bone by being soft, tough, transparent, and susceptible of being cut and pressed into a variety of forms; and on which fit it for being employed in turnery, for knife-handles, and in the structure of combs, snuffboxes, lanterns, and other articles. The horns of the goat, sheep, and other animals are largely used for these purposes; and because obtained in this country, about 30,000 cwts. are annually imported from abroad, two-thirds of which are entered for home consumption. The horns of goats are preferred from their being whiter and more transparent than those of other animals.

HORNBEAM, an indigenous British tree (*Carpinus betulus*), common in the south of England. In appearance it is graceful, resembling the beech. Its wood is tough, and well suited for tool-handles, cogs, and for other purposes in which strength is required; but it is coarse, and unfit for cabinet work.

HORSE, a noble quadruped (*Equus caballus*), whose beauty, strength, and docility have now connected him, directly or indirectly, with almost all the pursuits of civil life. The horse is strictly herbivorous. His stomach is comparatively small, and he eats often. He sleeps very little, and frequently standing. He is fit for work when about 3 years old. The horse lives for 20 years, but is not capable of much work after 15. The age can be ascertained by the condition of the teeth; in the eighth year; after which he is said to be "past mark." In old animals, however, the gums shrink from the teeth, which are left very long, and of a yellow or brown colour.

The horse is vastly modified in his form and character by the physical conditions of the countries in which he is naturalized. The pony of Norway or of the highlands of Scotland and the huge horse of the plains present extremes of form and size; while, again, these contrast in a striking manner with the form and agile shape displayed by those fed on the arid plains and scanty pastures of warmer countries. To the intermixture of the last with the former the term *blood* is applied. Importations of them anciently took place from the East and Barbary; and at a later period from Arabia. The African and Arabian accordingly, have given their characters to the blood-horse of England and other countries, and of considerable varieties. "The animal in which this effect of blood is the most complete is the English race-horse. For the combination of speed with the greatest strength, this creature can scarcely be surpassed. He forms, however, a purely artificial creation, admirably suited for a particular purpose, but not otherwise serving of cultivation, except from this, that it is the stallions of this race preserve the excellence and purity of the parent stock. The hunter is perhaps the best race of horses known. It combines the blood of the Arabian and other races of the South and East with the powerful form of the horses of the North. It is in a much happier proportion than the race-horse. From the hunter downwards to the races where no mixture of southern blood can be traced, the gradations are innumerable. It is in this class that our road horses and hackneys, the horses employed in our coaches and carriages of all kinds, nay, often in the mere heavy draught, are contained. It forms the most numerous class of horses in the country. But a large proportion is bad, having lost the hardiness and energy of the native race, without having arrived at the speed and other qualities of the blooded stock. The remaining class of horses consists of those in which no mixture of blood is found, or a very slight one, of stranger blood is found. These are the ponies of our moors, or the larger horses of the plains" (*Low's Agriculture*). Of the last, the most commonly enumerated breeds are: 1. The Old English black horse, of very large size, chiefly bred in the midland counties from Lincolnshire to Staffordshire; 2. The Clydesdale, or breed of the lowlands of Scotland; 3. The Cleveland Bay, the origin of the better kind of race, bred over the whole of Yorkshire and Durham; and 4. The Suffolk, so termed from its punchy form.

In the horse where speed alone is required, the chest must not be too broad; but in which we require the power of active motion, or, in technical language, combined with endurance, there should be a sufficient breadth of chest, and, therefore, is what is desired in the hackney and hunter. In the farm-

horse the chest should be broad, because in the farm-horse we require the power of draught, and not of speed. The chest of the horse behind the shoulders should be deep; his back, when we look for strength, without sacrificing this to mere speed, should be short; the ribs should approach near to the pelvis, as indicating strength, though if speed alone be required, this point may be sacrificed. The fore arm and hind leg to the joints should be muscular, and below the joints tendinous. The trunk should be barrel-shaped, but somewhat elliptical, and gently enlarging from the breast backward." (*Ibid.*)

The demand for horses for the saddle, for carriages, and for the heavier labours of every kind is very great. They are mostly produced on ordinary farms; but the race-horse and the finer animals for the saddle are bred chiefly in Yorkshire. A considerable number of blood horses are also reared in Ireland, especially in the rich grazing counties of Meath and Roscommon; they are smaller and clumsier than the English, but strong and hardy, full of fire and courage, and the best leapers in the world.

There are not any documents from which the number of horses kept in this country can be ascertained. The elements for such a computation, which never were very complete, have of late years been rendered much less so through the repeal of the taxes levied upon such as are used for various employments. Mr M'Queen estimates the number in the United Kingdom at 2,118,195, but this we consider an exaggeration. The exportation of horses has of late years grown into importance. The quantity imported is inconsiderable.

The principal repositories in London for the sale of horses by public auction or private contract, are:—*Dixon's*, Goswell Street, on Tuesdays and Fridays; *Horse Bazaar*, King Street, Portman Square, Tuesdays and Saturdays; *Morris'*, late *Aldridge's*, Little St Martin's Lane, Wednesdays and Saturdays; *Tattersall's*, Grosvenor Place, Hyde Park Corner, Mondays and Thursdays.

There are few sources of greater annoyance, both to the buyer and the seller of the horse, than disputes with regard to *soundness*. "That horse is sound in whom there is no disease, nor any alteration of structure in any part which impairs, or is likely to impair, his natural usefulness. That horse is unsound that labours under disease, or that has some alteration of structure that does interfere, or is likely to interfere, with his natural usefulness." "In the purchase of a horse, the buyer usually receives, embodied in the receipt, what is termed a *warranty*. It should be thus expressed:—

"Received of A B forty pounds for a gray mare, warranted only five years old, sound, free from vice, and quiet to ride and drive. "C D."

"A receipt including merely the word 'warranted,' extends only to soundness.—'warranted sound' extends no further; the age, freedom from vice, and quietness to ride and drive, should be specially named. This warranty extends to every cause of unsoundness that can be detected, or that lurks in the constitution at the time of sale, and to every vicious habit which the animal has hitherto shown. To establish a breach of the warranty, and to be enabled to return the horse or recover the price, the purchaser must prove that it was unsound or viciously disposed at the time of sale. In case of cough, the horse must have been heard to cough previous to the purchase, or as he was led home, or as soon as he had entered the stables of the purchaser. Coughing, even on the following morning, will not be sufficient; for it is possible that he might have caught cold by change of stabling." "No price will imply a warranty, or be equivalent to one; there must be an express warranty." "The warranty should be given at the time of sale. A warranty, or a promise to warrant the horse, given at any period antecedent to the sale, is invalid." "A warranty after the sale is invalid, for it is given without any legal consideration. In order to complete the purchase, there must be a transfer of the animal, or a memorandum of agreement, or the payment of earnest-money: the least sum will suffice for earnest. No verbal promise to buy or to sell is binding without one of these." "Where there is no warranty, an action may be brought on the ground of fraud, but this is very difficult to be maintained, and few possibly will hazard it. It will be necessary to prove that the dealer knew the defect, and that the purchaser was imposed upon by his false representation; and that, too, in a case in which a person of ordinary circumspection might have been imposed upon."—(*The Horse, Lib. of Useful Know.*, p. 361-368.)

The repositories in London and other great towns for the periodical sale of horses by auction, are of great convenience to the seller, who can at once get rid of a horse with which he wishes to part, and who is relieved from the nuisance or fear of having it returned on account of the breach of the warranty, because in these places only two days are allowed for the trial, and if the animal is not returned within that period, he cannot be returned afterwards. They are also convenient to the purchaser, who can thus soon find a horse that will suit him, and which, from this restriction as to the returning of the animal, he will obtain 20 or 30 per cent. below the dealer's price.

Assessed Taxes on Horses in Britain.—Horses for riding, or drawing carriages.

No.	Each Horse.	No.	Each Horse.	No.	Each Horse.
	£ s. d.		£ s. d.		£ s. d.
1	1 8 0	8	2 19 9	15	3 3 9
2	2 7 3	9	3 0 9	16	3 3 9
3	2 12 3	10	3 3 6	17	3 4 0
4	2 15 0	11	3 3 6	18	3 4 6
5	2 15 9	12	3 3 6	19	3 5 0
6	2 18 0	13	3 3 9	20	3 6 0
7	2 19 9	14	3 3 9		

And so on at the same rate for any number of such horses.

Race-horses, each.....	£ 10 0
Horses let for hire without paying post-horse duty, each.....	1 8 9
Horses rode by butchers in their trade, each.....	1 8 9
Where two only are kept, the second at 0 10 6	
Horses for riding, not exceeding the height of 13 hands, each.....	1 1 0
Other horses and mules 13 hands high, each.....	0 10 6

Exemptions.—Horses used for the purpose of

dry or by market-gardeners in their
 occasionally used for drawing bur-
 r let for drawing, for hire or profit, if
 d for drawing any carriage chargeable
 ity.
 d for the purpose of riding, or of draw-
 carriage not chargeable with duty, by
 ant of a farm at a rack-rent under
 er annum, provided the person claim-
 exemption keep only one such horse,
 ve no income exceeding £100 per an-
 om any other source.
 d for riding by any bailiff, shepherd,

or herdsman, where only one such horse is
 kept.

Horse used for the purpose of riding, or of
 drawing any carriage not chargeable with
 duty, by any clergyman (including dissenters),
 provided the person claiming the exemption
 keep only one such horse, and have an in-
 come, whether arising from his ecclesiastical
 appointment or otherwise, under £120 per
 annum.

Mares kept for the sole purpose of breeding.

Horses kept by licensed postmasters may be used
 for husbandry, and for drawing fuel, manure,
 corn, or fodder, free from duty.

DEALERS in London and within the bills of mortality are assessed in pay-
 an annual duty of £25 ; and in other parts of Britain, £12 : 10. *Exemp-*
 Persons who only sell horses bred by themselves or kept as farming-stock
 3 months.

SE-POWER, the dynamical unit employed to express the force of the
 ngine, is estimated at 33,000 avoirdupois pounds weight, raised one foot
 a minute ; being a force equal to that which the average strength of a horse
 ieved capable of exerting. " There have been different estimates as to the
 ver of horses, and it is now considered that, taking the most advantageous
 using horse-power, the medium power of that animal is equal to about
 bs. raised one foot high per minute. However, the other, 33,000 lbs., is
 the standard, and is what is meant when a horse-power is spoken of. In
 ng the power of a steam-engine with that of horses applied to do the same
 must be remembered that the engine horse-power is 33,000 lbs. raised one
 minute, the real horse-power only 22,000 lbs.; and that the engine will
 ceasingly for 24 hours, while the horse works at that rate only 8 hours.
 ine works three times as long as the horse,—hence, to do the same work in
 an engine of one horse-power, 4.5 horses would be required. The power
 a may be estimated at 1.5th of the real power of a horse, or 4400 lbs. raised
 per minute."—(*Hugo Reid on the Steam-Engine.*)

SE-RADISH, the pungent root of the *Cochlearia armoracia*, a perennial
 common in moist places. It is used as a condiment, and is besides an ar-
 the materia medica.

ERY. This manufacture may be held to date its origin from the intro-
 of the stocking-frame, the first machine successfully used in England for
 ling hand-labour in the manufacture of clothing. It was invented by the
 illiam Lea of St John's College, Cambridge, so early as the year 1589 ; and
 its value and importance were not at first understood, and a considerable
 psed before its produce superseded the trunk-hose then worn, the impulse
 gave to trade was sensibly felt before the lapse of half a century ; and by
 ere were about 660 frames in Britain, affording employment to 1200 work-
 successive improvements were afterwards devised : tuck-ribs were invented
 about which time also cotton was first used in the manufacture of stock-
 ad in 1759, Jedediah Strutt obtained his patent for Derby ribs ; but no very
 able improvement was communicated to Lea's invention until lately, when
 -frames with a rotatory action, and worked by steam-power, were brought

ounties of Leicester, Nottingham, and Derby, are the chief seats of the
 store in this country ; in the first, woollen hosiery is the principal branch,
 econd, cotton, and in the third, silk. Woollen hose are also made on a
 able scale in Wales, and at Hawick, in Scotland. It is not possible to
 y comparative estimate of the growth of the hosiery manufacture, but there
 e a doubt that the home trade has been very greatly increased within the
 years. Of the present extent and value of the manufacture, perhaps the
 imate is that made a few years ago by Mr Felkin of Nottingham. This
 an calculates the value of cotton hosiery annually made at £880,000, that of
 at £870,000, and that of silk at £241,000. He estimates the number of
 s manufactured yearly at 3,510,000 dozens, and in the production of these
 e used 4,584,000 lbs. of raw cotton, value £153,000; 140,000 lbs. of raw
 ne £91,000; and 6,318,000 lbs. of English wool, value £316,000; making
 l value of the materials £560,000, which are ultimately converted into the
 eable value of £1,991,000. The total number of persons employed is 73,000.
 d and floating capital invested, taking the machines at their working

fixed capital in mills and machinery for preparing cotton, £245,000; floating capital in frames, £245,000; floating capital in hosiery, £780,000. Total amount of floating capital, £1,050,000. In this estimate, however, the stockings knitted by wires, which are not made in the country, are not included.

The quantity of the hosiery exported can be stated, as a rough estimate, as follows:—stockings cotton-lace and a variety of articles. The annual declared value of the whole being about £1,000,000. It is not to be believed that of late years it has increased in value, except perhaps to the colonies, owing to the fact that the manufacturers have now to sustain in the foreign market. The principal seat of the German cotton-hosiery is in Saxony, where stockings and socks are made with Lan-
 cashire cotton. They are not only made with British goods from their material, but they have obtained them even to be entered for export duty at a rate of 10 per cent. The following is a statement of the value of stockings and socks of foreign manufacture imported into the United Kingdom in each of the five years to 31st January 1840

	1835	1836	1837	1838	1839
Value in £	20,771	27,242	10,332	208,351	498,9
Value in £	30,221	37,521	30,330	12,470	35.1

The principal cost of the Saxony manufacturers in cotton hosiery are for the raw cotton, the wages paid by them, and the greater proportion of the cost of the material in that department of the manufacture. In the hosiery goods, the cost of labour constitutes a small portion of the whole, while in woollens it does not exceed one-fifth of the whole. The proportion is still smaller. It does not appear that the manufacturers of woollen and silk hosiery have the same advantage in the quality as those of cotton.

It is not only in Saxony that the hosiery manufacture has grown rapidly, but in many other parts of Europe. "I believe," says he, "at this moment the number of Saxony hosiery mills do not exceed in number those of the whole of Europe." (See p. 14.)

The vessels used in the trade are small, with one or two masts, used for carrying the goods, and are not used in rough water.

HUDSON'S BAY COMPANY.—The lands in North America granted to Hudson's Bay Company. The boundaries of these lands were never very satisfactorily defined. They were intended to comprehend all districts in which contained the source of any stream which discharges its waters into Hudson's Bay. The main object of this association and the North-west Company is to obtain a kind of proprietorship over the whole of British America, with the exception of the settled provinces or governments.

The country is a vast plain of the great central plain of N. America. Little part of it has been settled, and the whole of it has a climate so unfavourable, that even the most hardy are incapable of withstanding its rigour. A great part of the surface is covered with woods, and at several places iron, copper, lead, &c. are said to have been discovered. The present wealth of the country consists in the fur-trade, the source of which forms the principal object of traffic. Indeed, the interior was considered as the best place for a fur-trade, and, with perhaps, the exception of a district on the Red River of Lake Winnipeg, which was sold by the Company to Lord Selkirk, and is now in the hands of a European settler. The inhabitants of the coast are chiefly Esquimaux, of the central parts of the country the whole population amount to about 150,000.

The Hudson's Bay Company, chartered in 1670, and possessing the monopoly of the fur trade in the region, is now the only survivor of the numerous exclusive bodies to which many branches of British trade were at one time subjected. The supreme direction is vested in a board consisting of a governor, deputy-governor, and seven directors, who hold their sittings in London. A deputy-governor, appointed by them, has the superintendence of all the settlements, and is aided by a council, composed of the principal officers in each district, who meet him at certain periods during his annual tours of inspection. The acting officers consist of chief factors, each of whom has charge of several posts, of principal and secondary traders, and of clerks. The officers are filled up according to merit from the inferior ones; so that it is perfectly open for a European and their descendants by Indian wives. They have 4 or 5 principal stations. York Fort, the most important, commands all the vast region extending W. and N. of Hudson's Bay. Moose Fort, at the N. extremity of Hudson's Bay, presides over all the country between that and the Canadian lakes. Ungava Bay, at the exterior entrance of Hudson's Strait, contains

tion for collecting the produce of the adjacent coast of Labrador, chiefly consisting of oil seal and porpoise. Montreal is the centre of the transactions carried on in the Canadas. The Company have important stations to the west of the Rocky Mountains, particularlyancouver on the Columbia, though the territory on that river is a subject of dispute between Britain and the United States. [FURS.]

Company's vessels, carrying out the stores to Hudson's Bay, sail from London on the 1st as to arrive about the end of August, when the navigation becomes open. They then their cargoes, which remain in store till the commencement of the ensuing season; when they receive furs and other articles which have been brought from the interior, and so their voyage to England, if possible, before the end of September. The ships employed side of the western territory leave the Thames in November, and sail round Cape Horn. employs 4 or 5 ships yearly. The annual value of the imports from this country is about ; while that of furs and other articles exported varies from about £35,000 to £70,000. DREDWEIGHT, the chief British measure of weight for bulky articles, is 112 lbs. avoirdupois.

BANDAGE, the commission given to a shipshusband, or managing owner. MORTGAGE is a lien or security over some piece of property, the custody of does not pass to the holder of the security, but remains with the proprietor of the article. The term is employed only when the property is moveable. In England, the real security which the landlord has for his rent, over the produce of the land, or the furniture of a house, is called a hypothec. The laws of this country give encouragement to a species of security which carries so slight an indication of its existence, and admits so many opportunities for fraud. There can never be said to be any tacit hypothecs in existence, with the exception of those mentioned, and the only instance in which conventional ones are recognised, are in the case of a security taken over a ship, or over a cargo, for necessaries on a voyage. [BOTTOMRY. RESPONDENTIA.] In France, where these securities admit of being registered, they are more generally acknowledged.

I.

Ice is extensively used for a variety of economical purposes, such as cooling, packing salmon, and as an ingredient in some confections. In warm climates it is prized as a luxury; and in Bengal and other hot countries, artificial ice is regularly used for its manufacture. Of late years, however, the practice has been adopted of shipping it from cold to warm countries. In September 1833, a cargo of solid ice, shipped at Boston, was discharged at Calcutta. The price at which it was offered was 3d. per lb., while the native ice could not be sold for less than 1d. It was packed in solid masses, within chambers of double planking, with a layer of refuse tan or bark between them; but the Americans expected, by improved methods of packing, to lower the price of future consignments one-half. The whole quantity shipped was 180 tons, of which about 60 wasted on the voyage, on the passage up the river to Calcutta, and in stowing away. Various cargoes with similar cargoes have since arrived in India. It is also exported from the United States to Brazil and other countries.

The use of the fisheries is to be admitted duty free into Coleraine, Londonderry, and Belfast. *Trans. Q.*, May 10, 1828.

ICELAND, a large volcanic island in the Northern Ocean, between lat. 63° 23' to 66° 33' N., and long. 13° 20' and 24° 31' W. Area, 38,230 square miles. Population, 60,000. It is subject to the King of Denmark, by whom a stiftsamtmann or governor is appointed every five years.

The aspect of Iceland is rugged, barren, and highly repulsive,—fire and ice seeming ever contending yet ever contending for the mastery. "It looks almost like the fragment of some world that has alone escaped destruction, confirming the opinion which regards it as a portion of the bottom of the sea by the expansive energies of fire." Only about one-ninth part of the island is cultivated, the remainder being covered with chains of naked mountains of ice, called jökuls, or icebergs, rendered equally desolate by lava and ashes ejected from numerous volcanoes, including the most celebrated Hekla. The island, though almost entirely in the temperate zone, approaches in climate nearer to polar lands; trees seldom rise above 10 feet, and very little corn is grown. The principal occupation is hay, the rearing of cattle forming, with fishing, the principal occupation of the island. In 1832, according to Mr Barrow, the live stock on this island was 50,000 horses, nearly 1,000,000 cattle, and 500,000 sheep. There are no regular trades or manufactures. "Every farmer is a carpenter and smith, though it not unfrequently happens that the clergyman, by his skill, monopolizes the trade of shoeing horses." Stockings and mittens, however, knitted by women, are largely exported; the other exports consist of wool, skins, dried fish, oil, salted butter, tallow, sulphur, and tallow, the latter being chiefly shipped from the factory of Hvammsfjörður on the Skjaldfandi Fiord. The imports are rye, pease, barley, salt, brandy, iron, tar, and produce, fishing lines, and cables.

The island is divided into four commercial districts;—Reikiavik, Eske Fiord, Eydfiord, and Hvalfiord; and ships arriving in one are not allowed to go to another. The trade is mostly carried on by the Danes, though a few British and Norwegian vessels sometimes pay the island a visit. The principal port, and almost only town is Reikiavik, lying on the S. side of an inlet of the Faxefiord,

on the S. W. coast ; pop. 700. The monies, weights, and measures, are the same as the mark.—(*Edin. Cab. Lib.*, No. XXVIII., *Iceland, Greenland, and the Faroe Islands*.)

ICELAND MOSS, a lichen (*Cetraria Islandica*) common in the N. and N. America, which yields a nutritive starchy substance, sometimes used to make bread and gruel. It may be formed into a paste ; and from its poultic qualities, as well as a bitter principle, it is extensively employed in rheumatism and other diseases, being regarded as a dietetic as well as therapeutic.

IMPORTATION. [CUSTOMS REGULATIONS.]

IMPRESSMENT OF SEAMEN. The law on this subject is in a vague and unsatisfactory state. Parliament has never yet, except incidentally upon this subject, probably from a feeling that any legislation regarding it did not involve the abolition of the practice would be very unpopular, made this formidable exercise of the royal prerogative has no better foundation than its vague usage, sanctioned by a few decisions of the courts, and restricted by a few statutory provisions. There have been many discussions as to the origin of the practice and its legality has often been called in question. The existence of the practice, however, though its extent is very obscure, has been held to be acknowledged by the judgments of the courts, and the restrictive clauses in the statutes regarding exemptions, which are thus the only branch that can be distinctly laid down. The following is a general statement. 1st, Persons above 55 and under 18, fit for sea-service and have not been more than two years attached to it (13 Geo. II. c. 24, § 4). 2d, For every 50 tons of a ship in the coal-trade, one seaman, nominated by the master and certified by a magistrate. This exemption is annual, from 1st January to 1st January (6 & 7 Wm. III. c. 18, § 19). 3d, Masters of vessels, when employed in the coast-fishery, according to certain minute provisions in 50 Geo. II. c. 108. 4th, Harpooners, line-managers, and boat-steerers of vessels in the sea-whale-fishery (26 Geo. III. c. 50, § 25).

By 4 Geo. IV. c. 24, § 4, all enrolled apprentices were exempted from impressment in the navy. That act was repealed by 5 & 6 Wm. IV. c. 19, which is less liberal in its enactments, and which indeed, though professing to consolidate all of the mercantile navy, contains no exemptions from impressment in direct terms. The act declares (§ 39) that “no parish or voluntary apprentice to the sea shall be at liberty to enter into the naval service during the period of his apprenticeship without the consent of his master ; but if, nevertheless, he shall voluntarily enter on board any of his Majesty’s ships of war, and shall be allowed to continue therein,” the master, on intimating his consent, becomes liable to the apprentice’s wages earned up to the period of the expiry of his apprenticeship. There are clauses for authorizing registered mariners to break their apprenticeship for the purpose of entering the navy, and these also are expressed in such terms as if there were no such practice as that of impressment. The whole statute is now found abridged under the head SEAMEN.

INCH, in long measure, is the $\frac{1}{12}$ th of the foot. In this country it was subdivided into 3 barley-corns, but now more commonly into eighths or tenths. In superficial measure, however, it is divided into 12 lines or parts, each part into 12 seconds, and each second into 12 thirds. These are called duodecimals.

INDIA (BRITISH). Under this head we intend to describe the territories of the East India Company in Hindostan, and the adjoining regions on the Asiatic coast, noticing generally at the same time, however, the native states in those regions which are under British protection, as well as the few that still remain independent. The British possession (with trifling exceptions in favour of Sind and some petty powers) of the whole coast, from the mouth of the river Indus on the W. to the extremity of the Bay of Bengal on the E., enables us to exercise a sort of colonial dominion over the whole. These regions, comprising, with the foregoing exceptions, all Continental India, may be generally defined as extending from the Himalayan mountains on the N. to Cape Comorin in the Indian Ocean on the S., from the Indus on the W. to the Burmese territories on the E.,—the extent and position of the whole being as follows :—

	Area in square miles.	
Presidencies of Bengal, Madras, and Bombay, including the acquisitions from the Burmese in 1826, *	630,000	8
States under British protection,*	550,000	4
Nepaul, Lahore, and other independent states,	177,000	1
Total,	1,357,000	13

* Exclusive of the recent conquests in Cabul and Afghanistan.

The Company's Settlements of MALACCA, PENANG, and SINGAPORE, and the Crown Colony of Ceylon, commonly included in British India, are described under their respective heads; while under EAST INDIA COMPANY will be found an historical, political, and financial account of that body.

The *Geographical Features of India* are distinguished at once by their grandeur and their variety. It is, as it were, an epitome of the whole world. Its vast plains present the double harvests, the luxuriant foliage, and even the burning deserts of the torrid zone; the lower heights are enriched by the fruits and grains of the temperate climates; the upper steep slopes of the Himalah are clothed with the vast pine forests of the north; while the highest pinnacles are buried beneath the perpetual snows of the arctic zone.

The main body as it were of India,—the chief scene of her matchless fertility,—is composed of a plain, extending along the entire breadth from east to west, between the Brahmapootra and the Indus, and reaching in point of latitude from the great chain of the Himalah to the high table-land of the Southern Peninsula. It thus possesses a length of about 1500 miles, with an average breadth of from 300 to 400. With the exception, perhaps, of the country watered by the great river of China, it may be considered the finest and most fertile on the face of the earth. Of this general character of the Indian plain, the province of Bengal presents the most complete and striking example,—no part of it being diversified with a single rock or even a hillock. The Ganges pours through it a continually widening stream, which, during the rainy season, covers a great extent with its fertilizing inundation. From this deep, rich, well-watered soil, the sun awakens an almost unrivalled power of vegetation, and makes it one entire field of waving grain. Bahar, farther up the current, has the same general aspect, though its surface is varied by some slight elevations; but Allahabad, higher still, is mostly low, warm, and fruitful, exactly like Bengal. North of the river, the provinces of Oude and Rohilcund, sloping gradually upwards to the mountains, enjoy a more cool and salubrious climate, and display in profusion the most valuable products both of Asia and Europe. Here the valley of the Ganges terminates, and is succeeded by that of the Jumna, more elevated, and neither so well watered nor quite so fertile. The Doab, or territory between the two rivers, requires in many places artificial irrigation. Its woods, however, are more luxuriant; while the moderate cold of its winter permits a crop of wheat or other European grain to be raised, and the summer is sufficiently hot to ripen one of rice. To the south of the Jumna, and along the course of its tributary the Chumbul, the ground is broken by eminences, extending from the hills of Malwa and Ajmere; while, even amid its most level tracts, insulated rocks, with perpendicular sides and level summits, form those almost impregnable hill-forts, so much celebrated in Indian history. Westward of Delhi begins the Great Desert,—a sandy tract which intervenes between the tributaries of the Ganges on the one side, and the Indus and its tributaries on the other, and which is refreshed only by a few small rivulets that spring up and disappear amid the waste. This entire region, about 600 miles long and 300 broad, presents an aspect nearly similar to the most dreary parts of Arabia and Africa. To the north and north-west of this barren tract, however, lies the plain of the Punjab (subject to the Rajah of Lahore), where the five tributaries of the Indus, rolling their ample streams, produce a degree of fertility equal to that of the region watered by the Ganges. High cultivation, too frequently obstructed by public disorders, is alone wanting to make it rival the finest portions of the more eastern territory.

Throughout nearly the whole of this vast plain, the wants of the population and the demands of commerce have superseded the original productions of nature; and, even under the most careful management, few of those exquisite shrubs are now reared, which have given such celebrity to the vegetable kingdom of the east. Its staples consist of solid, rich, useful articles, produced by strong heat, sown on a deep, moist, and fertile soil,—as rice, the eastern staff of life, sugar, opium, indigo,—and, in the drier tracts, cotton. Such an entire subjection to the plough and the spade, joined to the want of variety in the surface, gives to this great central region a tame and monotonous aspect.

The Deccan or Southern Peninsula presents none of those singular features which distinguish the great central plain and its northern boundary. Hills, occasionally rising to the rank of mountains, and enclosing table-lands of various elevations, diversify its surface, and procure for it at once the climate and vegetation of the tropical and of the temperate zones. But the most prominent feature is a range of heights, corresponding to the triangular form of this part of the continent. The northern border consists of the Vindhya chain,—a tract of high country stretching from the Gulf of Cambay to the Bay of Bengal, chiefly along both banks of the Nerbudda, and composing the provinces of Malwa, Candesh, and Gundwana, to which has been given the name of Central India. From its extremities extend southward the Ghauts, two parallel chains, which, at a greater or less distance, girdle the whole of the opposite coasts of Malabar and Coromandel.

The Western Ghauts, rising from about 3000 feet in the N. to 6000 feet in the S., stand generally at a small distance from the sea. The chief productions of this district, which includes great part of the Bombay presidency, are the pepper, vine, betel, and the areca, sago, and cocoa nuts; while the highest tracts are crowned by forests of teak. At the boundary of Mysore there crosses the continent a ridge, called the Nilgarries, the loftiest in all this part of India, having its peak 8700 feet in height, which has lately become an important sanitary retreat. Farther south, the west coast is in general very low, and traversed by numerous streams flowing parallel to the shore, thus affording great convenience for inland navigation.

The Eastern Ghauts, rising behind the Coromandel coast, and including a considerable portion of the Madras Presidency, are generally less elevated, but spread into more numerous branches, and cover a wider surface. They leave also a broader plain between them and the sea; yet, unless in the deltas of the great rivers which, from the west, cross the Ghauts and fall into the Bay of Bengal, this space bears somewhat of a naked and arid character. There occur even extensive tracts of sandy soil impregnated with saline substances, which in some degree taint the atmosphere. More to the north, in Orissa and the Circars, the high grounds often advance close to the sea, and consist to a great extent of mountain and jungle, continuing in a more uncultivated state, and peopled by more uncivilized races, than almost any other part of India. Cuttack again, a district approaching the Ganges, is so low as to be liable to frequent inundations from the sea, which in 1830, 1831, 1832, and 1833, broke the barriers and overflowed numerous fields.

These three ranges enclose a table-land, nearly 2000 feet above the level of the ocean, and

comprising the main body of Southern India. The south-western tract—the original seat of Mahratta power—forms a hilly country; but the central region, composing the once powerful kingdom of Golconda and Bejapore, comprehends extensive fertile plains, secured by their elevation from the scorching heats which afflict the territory along the coast. The extreme southern district, called the Carnatic, is divided into two table-lands, the Ballaghaut and the Mysore, considerably higher than those of the Deccan, and on that account including a greater variety of climate, soil, and production.

Of the rivers, the largest have their source in the great northern chain of the Himmaleh; and the rest, with few exceptions, in the table-land of Central and Southern India, which is supported by the Ghauts. The following are the chief rivers of India and of the countries which border upon it, with their computed length of course. In Northern India, the Indus and its largest tributary, making together 2000 miles; the Ganges, 1500; the Brahmapootra, 1600; the Juma, 780; the Ganduck, 450; the Cosi, 300; the Gogra, 300; the Goomtee, 300; the Bone, 300; the Betwa, 300; and the Chumbul, 500. In Southern India there are the Tapter, 460; the Nerbudda, 700; the Mahé, 380; the Saubermuttty, 200; the Godavery, 850; the Kistna, 700; and the Cavery, 700.

The Climate of India, though for the greater part situated nearer the equator, is not so hot as that of Arabia or the adjacent countries. The course of the seasons is also more regular and constant, being mostly regulated by those periodical winds called *Monsoons*. The south-west monsoon,—the rainy season,—commences with thunder and tempests in Southern India in May or the beginning of June, but later as we advance towards the north; in July the rains are at their height; they afterwards gradually abate till the end of September, when they depart amidst storms as they came. In the beginning of October a change takes place from the south-west to the north-east monsoon. This monsoon is attended with dry weather throughout the Peninsula, excepting on its eastern side, on the coast of Coromandel: on this coast it brings the periodical rains, which last till the middle of December,—heat and drought on the other hand prevailing here from June to October; from December to the end of February, the north-east monsoon continues, but is now every where a dry wind, producing cool and agreeable weather. The north-east winds cease about the beginning of March, from which time to the beginning of June the winds are irregular and the heat great all over the peninsula. The winds are chiefly from the south at this time in the Bay of Bengal and on its shores, and are hot, moist, and relaxing. In general, the healthy season in India may be said to be from November to the setting in of the rains, and the unhealthy season during the period of the rains and a short time after their termination.

The Inhabitants of India, although prominently distinguished from those of other parts of the world, are scarcely less varied among themselves than their soil and climate. The most numerous are those who speak Hindostanee,—a dialect formed on the basis of an ancient Hindoo language by superadding Persian, introduced by the Mohammedan conquerors, exactly as our own language has been formed by the addition of Norman-French to the Saxon. This people occupy the upper valley of the Ganges, and their number is about 31,000,000. The Bengalees, inhabiting the delta of the Ganges, are computed at 25,000,000. In Southern India the most numerous are the Telingas, numbering about 8,000,000. The Tamul nation, in the extreme south, are not less than 5,000,000. To the north of the Telingas we have the Oorias, estimated at 4,000,000. In the south we have two other great nations,—the Carnatas and the Mahrattas,—whose numbers have not been computed. To these great indigenous nations are to be added many minor ones;—a variety of wild and wandering races, with a crowd of foreign settlers or their descendants, as Arabs, Persians, Afghans, Turks of Zagatay, Armenians, Jews, Portuguese, English, and a few French. The most populous district is that watered by the Ganges, the entire valley of which contains about 260 inhabitants to the square mile. Physically viewed, the Indians are inferior in strength and stature to the European race. There is, however, a great diversity of character among them. The Bengalees are the smallest, feeblest, and most timid, though not the least ingenious and industrious. Many of the higher classes of the Hindoos beyond Bengal possess great courage, and this character obtains both to the north and the south; but still docility, incapacity of combination, and attachment to peace, are characteristics of the whole. With these features, it would be extravagance to compare their labour with that of Europeans. On an average the productive power of four natives is reckoned at not more than that of one Englishman, which, indeed, is the proportional rate at which Indian seamen, or lascars, are received into shipping. The labouring classes are wretchedly poor,—the average rate of earnings being only from 5s. to 8s. a-month. They are in consequence forced to have recourse to the lowest species of food; while, as to raiment, a great number have enough only to cover their nakedness,—the male sex a single clout, and the female sex two.

The Productions of the Soil, for the most part, and especially those introduced into the European market, bear a very low value, compared to the same articles raised in the southern and tropical regions of America. This unfavourable distinction appears to arise less from any defect in the land, or even in the species of products, than from the imperfect culture, and the slovenly manner in which they are prepared. Rice is the food of every class except the lowest, and its production, generally speaking, is only limited by the means of irrigation, which is essential to its growth. The ground is prepared in March and April; the seed is sown in May; and the produce reaped in August. If circumstances are favourable there are other harvests,—one between July and November, another between January and April, consisting sometimes of rice, but more commonly of other grain, pulse, or cotton. In the higher territories, sloping upward to the Himmaleh, wheat and barley prevail. Holcus or millet is also largely cultivated on inferior lands, and as an intermediate crop; and this with pulse, to which are added even vetches, wild roots, and herbs, constitutes the chief food of the labouring class. In Guzerat some species of holcus are raised to a considerable extent. But now the chief commercial product of India is opium,—an article produced almost exclusively in the central districts, especially Bahar, Benares, Patna, and Malwa, a full account of which will be found elsewhere. [Opium]. Cotton is also an article of great importance, being used for the clothing of a large proportion of the people. That of Dacca, selected for its muslins, is the finest in India, and perhaps in the world; but it is limited to a range about forty miles long and three broad, along the banks of the river Brahmapootra. Attempts were made to spread it by distributing plants in other districts, but without success. The largest

raised in the Doab and others of the upper Gangetic provinces, from which Bengal is chiefly supplied; but the best qualities are found in the Nagpore district, and in the f Surat and Bombay. These, however, have continued to be inferior to the American, rendered almost unmarketable by their foul state, being mingled with dirt and seed. Efforts have been made by the Company to improve the quality; and, since 1829, they have their efforts, ordering experimental farms to be established, and sending out seeds of the and Egyptian species, also cleaning implements, particularly the American saw-gin. Its use appeared at first completely successful; but it was soon found that it shortened the time it appears on the whole, however, that European superintendence, with an improvement in the modes of cleaning and packing, has of late raised the value. Silk is another material to India; and, though its actual culture is not so widely diffused as that of cotton, it can be produced in almost any desired quantity. Cossimbuzar, Commercolly, and Calcutta are at present the principal districts whence it is derived.

Sugar is an article extensively raised and consumed in India, chiefly in the form of sweetmeats; the whole quantity used has been estimated at 480,000 tons; it is grown chiefly in the upper valley of the Ganges and in Guzerat. That used by the natives consists mostly of a coarse kind, in which the molasses are still included; and only a certain portion is manufactured in perfectly granulated. The variety drawn from different species of the palm is preferred in the north of India, being less costly, though coarser. Considerable exertions have been made to improve the manufacture of sugar; and the Otaheite cane, considered decidedly superior and generally grown in the West Indies, has been introduced. Tobacco has been introduced by Europeans, and is in general use. The chief other products are,—indigo, extensively raised in the alluvial tracts of Bengal, bordering on the Ganges; pepper, raised amid the hills of Malabar and Canara; saltpetre, an article of which Bengal, from some peculiarity of soil and climate, enjoys nearly a monopoly, being particularly abundant in the province of Orissa, and giving value to arid and sterile soils unfit for cultivation; and wool, which was always scarce, though, till lately, of very inferior quality. In the territory of Bombay it has been much improved.

Information regarding the mineralogy of India is defective. Coal exists in various places; the most remarkable field is that of the Damoda, a deposit worked in pits at a place about 40 miles from Raghunathpur, the produce of which is now consumed in Calcutta. Iron, copper, and other metals, occasionally present themselves, but their produce is trifling. Precious stones, especially diamonds, are likewise found in certain districts.

The manufactures of India have enjoyed a high reputation from the earliest antiquity. The country containing a great number of inhabitants who are extremely poor, and a few who are very rich, a demand is created on the one hand for a great mass of coarse fabrics, and on the other for a small quantity that are exquisitely fine. To exhibit themselves in splendid robes is the chief object of oriental luxury; accordingly, the produce of the loom had reached a perfection which that of no other country, except Britain, and that very recently, could make even approach. The delicate and flexible form of the Hindoo, the pliancy of his fingers, and the sense with which they are endowed, even his quiet indefatigable perseverance, all render him early fitted for this description of employment. The muslins of Dacca in fineness, the shawls and other piece goods of Coromandel in brilliant durable colours, have never been surpassed yet they are produced without capital, machinery, division of labour, or any of those which give such facilities to the manufacturing skill of Europe,—the weaver being merely an individual, with a loom of the rudest construction, consisting sometimes of a few branches of bars of wood roughly put together. The demand for these fine muslins and calicoes, however, within the last fifty years greatly decreased, owing partly to the fall of so many splendid robes as alone remunerating prices could be obtained, but mainly to the competition of the imitations of these fabrics, which are imported from Manchester, Glasgow, and Paisley. Those that now meet a sure sale are those coarse cotton robes, woven in almost every inland for the use of the common people. The sole other manufacture deserving of notice is silk, which is also of great antiquity in India, and carried to considerable perfection, though not equal to that of cotton. Bandanas and other handkerchiefs, crapes and taffetas, are the principal articles which it is chiefly produced. The shawls of Cashmere, worked on the northern border of the country, and the wool of a species of goat, are also highly prized in every quarter of the world.

Internal Trade comprehends not only the intercourse between one portion of the British empire and another, and the trade of the latter with the tributary and independent states of Asia, but also the trade along a land frontier of about 2000 miles, with Sindh, Cabul, Lahore, Bokhara, and the Burmese dominions; there being very few foreign or tropical productions except these nations, the last excepted, can receive but through their connexion with us.

Internal intercourse, however, is much impeded by the defective means of communication. The so-called high-roads are in general little better than broad and bad pathways; while the want of bridges, in a country intersected by so many rivers or streams, is small, and the few that are tolerable. Of late considerable exertion has been made by the Company to remedy these defects, especially in Bengal; and several extensive roads have been recently (1841) completed. A grand trunk-road from Calcutta, extending 770 miles through Bengal and the upper provinces, the Jugurmuth road, connecting Orissa with Bengal; the road from Calcutta to Kishna, from Silhet to Gowhatty in Assam; and the Deccan road from Mirzapore to Jubbulpore, and various others,—all being without tolls; but, taken as a whole, what has been accomplished is trifling compared with what is required. Few of the rivers are navigable for considering further than the range of the oceanic tide; and, although there is throughout the country of the Ganges, as well as on the rivers of the south, a considerable inland navigation, similar to what would in this country be called canal-navigation, yet much of that, on the larger rivers, is impracticable every where, except during the four months of the rainy season, while even during that season it is of little avail for the return trade from the coast. The nature of the inland trade of India must therefore be conducted by land, and hence the importance of good roads, which would be practicable at all seasons and in every part of the country. Goods are conveyed partly in very rude cars drawn by oxen, but much the greater proportion are carried on bullocks. On the north-west frontier camels and horses are used; and in the northern

mountain small horses and even ponies are employed. In all the hilly districts porters are still more in use than any description of oxen. The charge for carrying goods by land in the plains averages about 80s. per ton per 100 miles; and, by the Ganges, about 2s. per ton. Thus the cost of conveying merchandise 160 miles by land in India is equal to more than one-half the cost of conveyance from Calcutta to London; and the rate of freight is three times as much on the Ganges as between London and Calcutta.—(*Commerce, Money, and Banking of India*, p. 221.)

The source of the internal trade of India is, like all others, the difference in the character of the productive industry of the several countries and districts carrying it on. The principal articles are corn, cotton, oil-giving plants, and sugar, salt, indigo, opium, silk, tobacco, saltpetre, drugs, hides, lime, and timber. As for the greater part of the salt is produced on the coast, or imported landwards from foreign countries, it is chiefly paid for in corn. The cotton, sugar, and other articles are paid for either in the tropical productions of the coast, or in foreign commodities, principally consisting of the seven-nerf, spices, the metals, iron, zinc, tin, copper, and lead, wax, lime and cottons. Until lately the whole inland trade of British India was subject to custom duties. These have been wisely abolished within the Bengal provinces, and if they are not, ought to be discontinued in our other possessions, where their operation is known to have been extremely pernicious. There remain for abolition the monopoly of the manufacture and sale of salt, and of the culture of the poppy, and the preparation and sale of opium,—imports which yield an annual revenue of about two millions.

The *External Trade of India* is carried on with the following countries, which are given in the order of their relative importance.—Great Britain, China, Persia and Arabian Gulf, East Islands and Peninsula, France, United States, other continental nations of Europe than France, Cape of Good Hope and Mauritius, South America, and Australia. An account of the commerce of India at the three principal ports is given below, but there are no public documents which afford a comprehensive view of the whole amount of the foreign imports and exports. In the next place referred to, however (p. 231), the quantities and values of the staple articles of foreign export are estimated as follows.—Opium, 24,000 chests, each of 140 lbs., £2,800,000; indigo, 16,000,000 lbs., £2,800,000; cotton wool, 100,000,000 lbs., £1,300,000; cotton manufactures, £200,000; silk, 1,000,000 lbs., £100,000; silk manufactures, £200,000; corn and grain, 400,000 quarters, £75,000; sugar, 16,000 tons, £236,000; saltpetre, 14,000 tons, £160,000; Total, £2,971,000.

The principal commercial relations of India are, as we have already stated, with Great Britain. An account of the progress of the trade up to the renewal of the Company's Charter in 1859 has been already given [*EAST INDIA COMPANY*]; and the following tables exhibit the amounts of its imports and exports for a series of years since that event.

QUANTITIES of the Principal Articles of the Produce and Manufacture of India Imported into the United Kingdom from 1834 to 1839.

	1834.	1835.	1836.	1837.	1838.	1839.
Cotton wool	Do 22,720,000	41,471,000	73,949,845	51,530,079	60,817,734	47,121,000
Cotton goods	Do 221,000	250,500	304,160	414,450	504,271	300,000
Raw silk	Do 1,700,000	1,100,000	1,450,000	1,900,000	1,151,000	1,300,000
Indigo	Do 3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Silk manufactures	Do 1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Sugar	Do 1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Opium	Do 1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Saltpetre	Do 1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Rice	Do 1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Castor oil	Do 1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000

The chief other articles are sheep wool, coffee, ginger, gum, drugs, and skins.

DECLARED VALUE of Articles, the Produce or Manufacture of the United Kingdom Exported to the Territories of the East India Company and Ceylon in the same Years.

	1834.	1835.	1836.	1837.	1838.	1839.
Apparel &c.	£ 27,646	£ 41,509	£ 67,921	£ 81,000	£ 61,044	£ 77,700
Arms ammunition, &c.	29,000	53,700	46,800	54,200	66,000	74,000
Beer &c.	52,000	64,300	89,635	102,124	75,844	100,000
Cotton manufactures	839,221	1,706,354	2,090,367	1,528,000	1,800,000	2,300,000
Cotton twist yarn	315,565	470,000	511,078	602,000	640,000	600,000
Glass wares	77,000	100,000	120,000	100,000	84,000	70,000
Iron, steel	104,340	144,000	134,000	137,000	137,000	130,000
Hardware, cutlery	40,700	60,000	65,000	79,000	60,000	70,000
Flax and copper goods	345,000	310,000	330,000	370,000	300,000	300,000
Machinery	35,000	10,000	7,500	7,000	20,000	70,000
Linen manufactures	17,000	21,000	40,000	30,000	30,000	50,000
Woolen do.	25,000	210,000	304,000	326,000	304,000	300,000
Other articles	530,000	340,000	431,714	353,000	301,000	400,000
Total	2,570,000	3,100,000	4,200,000	3,600,000	3,000,000	4,200,000

(Of the articles not specified the chief are plate, watches and jewellery, books and stationery, earthenware, lead and shot, coach, leather and saddlery, silk-manufactures, and tin-ware.)

returns for 1840, so far as published, are still more favourable; the declared value of British manufactures exported amounting to no less than £6,023,192; and the imports of wool to 76,703,295 lbs.: while in 1841 the latter were again increased to 87,463,584 lbs. Commercial intercourse between Great Britain and Hindostan, though thus considerable, is, I believe, of small amount compared to what it is destined to become. Hitherto, with some exceptions, there has been a strange propensity on the part of our statesmen to subject India to great disadvantages as to trade, and pertinaciously to refuse to treat it as a member empire, one and indivisible in respect to rights and interests. The discriminating duties, so continued upon sugar and rum for the advantage of the West India planters, have been retained upon Bengal and Madras sugar. But they are still maintained upon the sugar produced in other parts of India, and upon tobacco, coffee, and some minor articles; while again, India is far from being placed on a footing of reciprocity as regards the admission of her manufactures into Britain. Thus the cotton and silk piece goods of England are imported into Calcutta at a 24 per cent.; while the cottons of India, brought to a British port, pay in no case less than 20 per cent.; and in regard to Indian silk piece goods the inequality is still greater,—they being admitted into British ports to a duty of 20 per cent. This heavy duty on India silks is felt chiefly on the silk handkerchiefs called corahs, which might be largely introduced into this country for wearing and home consumption. The heavy duties levied in England on Indian drugs and amounting to from 100 to 300 per cent. on their value, is also much complained of by the directors of the Company (*Lords' Report on Petition of E. I. Company, 1840: Par. Paper, No. 353*). It is perhaps impossible to give a stronger proof of the unfavourable light in which our statesmen have viewed India than the simple fact, that the term "British possessions," in relation to commerce, tariffs, and the like, has been always held to be exclusive of that splendid portion of the British dominions, merely because it is governed through the instrumentality of the East India Company. The crown colonies, taking their cue from the conduct of the mother country, have regarded their sister dependency as an alien, treating goods imported from British India as "foreign," and, as such, subjected to much higher duties than when brought from other colonies within the United Kingdom. The invidious distinction, however, has been modified by a late Act of Council, which ordains that the duties now levied at the Cape, Ceylon, Australia, and New Zealand, upon articles the produce and manufacture of British India, shall be reduced or equal to the same rates as are now imposed upon similar articles the produce or manufacture of the United Kingdom, or of other British possessions.—(*London Gazette, May 1841.*) The capabilities of India have hitherto been but imperfectly known in Europe; and indeed, the Act of 1833, which prohibited the East India Company from trading, and gave to British subjects the right to settle for commercial and agricultural purposes in the Company's possessions, there was but little inducement to pursue that line of inquiry. Since that time it has been conceded, the attention of the public has been forcibly drawn to the subject by the improved fiscal treatment of India, indicated by the facts we have stated above, the extension of the banking system in that country,—and its increasing demands for manufactures,—are evidences of the awakened intelligence which now guides the enterprise of India in her intercourse with her Eastern empire. The low quality and small exportable value of the cotton, sugar, silk, tobacco, and other productions of those noble possessions, are attributable to one cause. India is miserably poor. What Mr Rogers said to a late Parliamentary Committee with respect to silk is true in regard to nearly all the other articles of raw produce. "There is not sufficient private capital, or private credit in India, to produce one-fifth part of the silk that the country is capable of producing" (*Par. Paper, 1840: Evidence, p. 10*). To remove this poverty, no means should be spared to afford to the public an increased number of the openings, the inducements, and the safeguards for and attending the investment of capital in India. Guided by this, and the wiser commercial legislation now being recognised and acted upon, no doubt could be entertained of the success of British skill and capital in improving the quantity and quality of the chief Indian staples, and thereby raising quickly and greatly the value of India as a customer, by augmenting the funds with which she pays for British merchandise. The advantages which we derive from our colonies are usually estimated by the value of our manufactures which they purchase. India, as we have shown, buys our manufactures to a large and increasing extent. But India is more than a customer. The circumstances in which she is placed render her in a manner tributary to a large amount. Defraying from her own resources the charges of her internal government and military defence, subjected to the rule of British subjects in all the higher and more lucrative and honourable offices of the state, India, without return, except in the small value of military stores, further transmits annually to this country on account of the "home expenditure" of the East India Company, a sum which their directors, Mr Melville, estimates at not less than £3,200,000.* This sum is in fact the price which we pay for the connexion which subsists between her and England; and there is no doubt that the bulk is fairly due by her, as it is right that she should pay the legitimate expenses of administration. Nor are the advantages of her relations to England dearly purchased even at this price; especially if we allow ourselves to anticipate with confidence the adoption of a more liberal policy towards this noble dependency than has been hitherto practised. At this £3,200,000, it has to be noticed that the amount of private fortunes, transferred from this country, is estimated at from £500,000 to £750,000 a-year; making the amount of Indian private remittances from India, for which Great Britain gives no return except to the extent in military stores, nearly £4,000,000 per annum.

TRADE OF THE PRINCIPAL PORTS.

CALCUTTA.

Calcutta, the capital of Bengal, and seat of the supreme government in India, is situated in lat. 22° 31' N. and long. 88° 17' E., on the east side of the Hoogley, one of the branches of the Ganges, 10 miles from the sea. It extends nearly 4 miles along the river, with an average breadth of 1 mile. The northern quarter, or the Black Town, inhabited by the native population, consists of narrow, dirty, unpaved streets, chiefly of mud hovels; the whole deep, black, and dingy, forming a complete contrast to the front parts possessed by Europeans. These last generally

consist of dividends on India stock and debt, pensions to retired officers, claims of Queen's troops in India, charges of home establishments, and stores exported.

present handsome detached brick houses, which, being situated, have so elegant an appearance that Calcutta is sometimes called "the City of Palaces" and "the Indian Corinth." The stupendous fortification of Fort William is situated about one-fourth of a mile below the town; and the intervening space, called the Esplanade, contains the magnificent residence of the governor-general. Adjoining the esplanade and the river-bank of the city is the "Strand,"—a quay extending between 2 and 3 miles, and contiguous to which there is anchorage for ships of 600 tons, while Diamond Harbour, about 30 miles below, is sufficiently deep for the largest vessels. The access to the port is intricate, owing to shifting banks of sand and mud; but this disadvantage is outweighed by its ready intercourse, through the Ganges and its tributaries, with the richest and most populous regions of Hindostan, and which, joined to its being the place of chief resort of civil and military functionaries, have rendered Calcutta the principal commercial emporium of the east.

The external trade of Calcutta is exhibited in a series of tables, originated by Professor Wilson, and, since his departure, continued by Mr Bell. From these have been drawn up the following progressive view of the imports and exports since the opening of the trade.

Imports.				Exports.			
	1814-15.	1827-28.	1837-38.		1814-15.	1827-28.	1837-38.
	£	£	£		£	£	£
Copper and nails	196,620	359,208	294,640	Cotton piecegoods	649,560	975,616	80,000
Iron	37,042	61,347	96,134	Silk do.	351,800	351,800	274,300
Ironmongery	4,531	17,695	18,183	Cotton	456,095	326,226	126,110
Lead	24,789	34,580	18,107	Silk	331,271	855,200	405,400
Tin	80,215	—	86,393	Indigo	724,934	1,917,100	1,184,700
Tutenague	12,516	3,949	—	Sugar	211,469	175,005	471,800
Quicksilver	—	119,374	25,418	Saltpetre	19,364	148,700	25,300
Spelter	96,150	15,347	4,700	Grain	135,956	246,614	204,300
Madeira wine	55,080	38,328	91,600	Flour	917,630	1,210,680	2,129,200
Claret	36,606	11,125	4,414	Opium	—	—	12,400
Port	—	41,330	36,896	Castor oil	—	2,000	88,000
Sherry, Cham-	—	30,568	18,743	Ginger	—	1,847	9,000
pagne, &c.	33,240	36,062	48,075	Borax	19,473	85,988	4,300
Spirits	9,941	208,516	44,400	Lac, lake	12,680	22,006	109,300
Malt liquors	44,481	561,404	632,052	She-lac, &c.	9,002	6,689	14,700
Cotton piecegoods	44,481	561,404	632,052	Shawls, &c.	14,454	840	7,100
Cotton yarn, &c.	16,070	65,068	50,662	Bengal rum	—	17,800	24,200
Haberdashery &c.	14,706	47,126	42,604	Gunny bags	—	—	80,000
Books and Sta-	28,840	97,800	29,670	Hides, skins	—	—	21,000
tionery	—	30,747	30,731	Safflower	—	—	1,000
Glassware	—	68,620	4,150	Linseed	4,006,279	5,932,710	6,472,000
Hardware, cutlery,	—	37,059	12,600	Fundries	15,463	448,100	3,000
&c.	18,053	6,000	12,600	Re-exports	233,216	220,307	334,300
Jewellery	50,950	36,274	45,400	Treasure	—	—	—
Paints and oil	16,106	17,844	6,831	Total	4,101,735	6,400,820	6,304,000
Groceries &c.	46,302	30,245	33,927				
Timber and spars	41,720	53,900	73,972				
Cordage and cable	—	—	9,000				
Tea & China goods	—	—	134,901				
Pepper and spices	290,069	426,508	590,836				
Coffee	—	—	—				
Salt	—	—	—				
Sundries	1,165,720	2,790,756	2,965,789				
Treasure	1,076,967	1,352,969	1,064,161				
Total	2,242,687	4,132,725	4,069,950				

In these tables we observe a general increase, and likewise remarkable variations respecting particular articles. In the imports, cotton stuffs and yarn have been, the former nearly, the latter wholly, created under the free trade; and they now form by far the most considerable branches. Woollens have varied strikingly. Wine has been materially diminished, and at the same time a great alteration of taste exhibited. Madeira, formerly the favourite beverage, is now only introduced with the view of being returned to Europe, improved by the climate and voyage. Port, tea, and even claret, have been largely superseded by sherry, champagne, and other white wines. Among metals, there has been a steady demand for copper, which is the material used by the natives in making cups and vessels for water. Iron, lead, and tin have much increased. The tutenague of China has been superseded by spelter or zinc, which is cheaper. Timber and cordage fell off during a certain period, owing to the discontinuance of shipbuilding in Calcutta, but the former has materially revived.

In regard to exports, it is impossible not to remark the great diminution in cotton piece goods, which, in the first year, ranked second only to opium. This drug, with indigo, sugar, saltpetre, and lac dye, have all considerably advanced. The trade in hides did not exist before 1827.

The following table shows the course of business in respect to the countries with which it is conducted, comparing the years 1815-17 and 1837-38. The first has been chosen on account of the interval which had then elapsed after the opening of the trade, during which different nations attempted to establish an intercourse with India, which several of them, however, have been unable to maintain.

	1816-17.		1837-38.	
	Imports.	Exports.	Imports.	Exports.
—Britain.....	£805,111	£1,380,696	£2,052,833	£2,701,358
".....	12,192	29,513	.....	.....
".....	13,242	83,299	103,791	221,806
".....	583	1,464	.....	.....
".....
".....	.....	70,831	3,993	10,673
".....	36,763	463,453	.....	.....
Coromandel Coast.....	62,840	125,049	87,359	115,439
".....	4,518	18,995	8,387	5,039
"Coast.....	74,515	378,520	170,938	277,122
"es, &c.....	16,873	9,673	13,259	4,733
"and Persian Gulf.....	91,079	443,277	85,942	157,387
".....	317,038	1,067,896	122,464	2,054,378
".....	85,949	149,718	187,039	383,523
"and Malacca.....	133,436	93,857	1,856	14,714
"nd Sumatra.....	5,982	33,850	2,434	32,665
"olland.....	33,187	15,536	68,150	141,547
".....	18,925	125,066	.....	.....
".....	61,049	204,643	2,028	154,905
—Mauritius.....	.....	.....	13,405	55,670
".....	3,365	34,044	5,951	20,192
"nd St Helena.....	6,243	169,495	23,639	2,019
"—South.....	96,710	599,825	32,321	120,737
".....	£1,879,600	£5,498,700	£2,985,789	£6,472,907
".....	3,819,128	16,900	1,084,161	31,688
Total	£5,698,728	£5,515,600	£4,069,950	£6,504,595

ble, too, suggests some interesting observations. The intercourse with Portugal and which was at one time very extensive, has entirely ceased. The wines of the former are in fashion, and the activity of British merchants enables them to supply these countries in produce more cheaply than by their own direct navigation. The same appears the case with Holland and the other northern states, except to a small extent with Sweden. France, among European powers, holds a considerable and increasing traffic; receiving in specie, and lac-dye, and giving her wines with a large balance in money. The trade has increased with the United States, which produce no commodities suited to the Indian market, and for the indigo and silk can give only bullion or goods procured elsewhere. South America, again, has fallen almost to nothing. In respect to China, the imports are small and diminishing, the exports large and increasing. The latter consist chiefly of opium and cotton, for which are received tea, ornamental goods, and quicksilver. From the East Indies are imported the gold of Borneo and Sumatra, spices, tin, drugs, now almost entirely from Singapore. From Coromandel are obtained chanks, an ornamental shell much used in cottons, and silks; from Malabar, teak-timber, coir for cordage, cowries from the Malabar coast, the Arabian and Persian Gulfs, almonds, dates, coffee, pearls. These different articles have not increased, but rather diminished; and it is stated that a direct trade has been opened between Britain and many of those places with which intercourse was formerly carried on through Calcutta.

Following are given as the amounts of the imports and exports of subsequent years:—

	1838-39.	1839-40.	1840-41.
Imports.....	£4,140,579.	£5,065,918.	£5,867,767.
Exports.....	6,480,080.	7,040,611.	8,369,329.

Amount of shipping which entered Calcutta in the year 1837-38, expressed in tons, was as follows:—British, 130,181; Native, 9,339; French, 16,137; Swedish, 262; Dutch, 1,261; American, 1; Arab, 6,303; Burmese, 596; Moorish, 919; total, 169,254 tons, and 563 vessels. Of these ships, 135, burthen, 66,008 tons, were from the United Kingdom.

BOMBAY.

Bombay, the western capital of British India, is situated in lat. 18° 55' N., long. 72° 53' E., on an island of the same name, separated from the mainland by a narrow strait, and connected with the larger island of Salsette by a causeway; pop. 230,000, of whom 13,500 are Parsees. It is fortified, particularly towards the sea, and its harbour is the finest in India, being unobscured by safety; while it is the only important one where the rise of tide is sufficient to allow of the construction of docks. The buildings connected with these docks are greatly admired for their architectural beauty; and the slips and basins are calculated for vessels of any size. They are the property of the Company, and though the property of the Company, are entirely under the management of the Government, by whom many large vessels, including frigates and line-of-battle ships, have been built. Teak-timber, supplied from the forests of Malabar and Guzerat. The Parsees are also principal proprietors and merchants on the island, and a great part of the capital even of Bombay is supplied by Parsee partners.

The commerce of Bombay is very considerable. The great export of Indian cotton to England is from this port, to which the cotton from Oomrawattee and the Deccan, formerly carried to Calcutta, is now brought. About two-thirds of the whole trade between India and England, so far as export is concerned, is now also carried on from Bombay [CHINA]. The goods which are exported comprise principally opium and cotton-wool. The imports from the United Kingdom

down consist principally of British manufactures and metals, the greater part of which, with sugar and other goods, the produce of Bengal and China, are re-exported in small vessels to all the ports of the eastern side of India, and to the Arabian and Persian Gulfs,—the returns being made in cotton-wool and in the produce of silk and grain from the northern ports of India; from the south, pepper, betel, nutmeg, cardamom, nut, and coco-nuts; and from the Arabian and Persian Gulfs, raw silk, pepper, pearls, and coffee, gum-arabic, copal, myrrh, olibanum, bdellium, musk, and other fragrant woods and gums. The exports to Great Britain consist of Persian silk, raw cotton, sugar, gum, and drugs: those to Bengal are timber, coal, coco-nuts, sandal-wood, and rice.

The inland trade with Central Asia, owing to the unsettled state of Afghanistan and the heavy duties levied by the Amirs of Sind at the mouth of the Indus, has hitherto been comparatively trifling, having been conducted by means of a tedious and expensive land-route through Surât, but the recent British conquests in Cashmir and Afghanistan, and the navigation of the Indus by steam, will in a short time render Bombay the seat of an extensive commerce, not only with these countries, but with the northern regions of Hindustan.

In the year 1834-5, the imports into Bombay amounted to £3,376,720 value in merchandise, and £21,347,077 in treasure; in all, £24,724,357. The commodities were chiefly from—the United Kingdom, £1,414,151; France, £32,535; Malabar, £738,057; China, £400,566; Bengal, £233,810; Arabian and Persian Gulfs, £233,100; Cutch and Sind, £157,289; Penang and eastward, £77,771; Coast of Africa, £34,431; Goa, Diu, and Daman, £32,403; the treasure was brought from all quarters in all, £21,347,077. The exports amounted to £5,764,360 in merchandise, and £206,667 in treasure; in all, £6,043,116. Of the former, there were sent to China, £3,266,625; United Kingdom, £1,118,828; Arabian and Persian Gulfs, £470,468; Cutch and Sind, £23,725; Malabar, £12,174; Bengal, £112,675; Penang and eastward, £68,574; Coast of Africa, £32,031; the treasure was sent mostly to Malabar and Coromandel.

The amounts of the imports and exports in subsequent years were as follow:—

	1835-6.	1836-7.	1837-8.	1840-1.
Imports ..	£2,414,357.	£4,728,720.	£3,434,478.	£5,160,768.
Exports ..	4,294,418.	4,314,712.	4,043,116.	5,577,312.

Of the imports in 1840-1, £1,460,200 were from Britain,—the increase being chiefly in piece goods.

The shipping entered inwards in 1837-38 amounted to 202 vessels, burthen 91,187 tons. Of the tonnage, 67,000 was under British colours, including 38,880 from the United Kingdom.

MADRAS.

Madras, or Fort St George, situated on the Coromandel coast, in the Bay of Bengal, is lat. 13° 4' N., and long. 80° 16' E. is the capital and principal commercial city of Southern India; pop. 462,000. It possesses no harbour, but only an open roadstead, ill adapted for trade, in consequence of the rapid current which runs along the coast, and the violent surf which beats against the shore. This last is so dangerous that ordinary ship boats do not approach beyond the belt of the surf, where their lading is transferred to a peculiar kind of Madras boats, which yield to the shock without breaking when thrown upon the beach. The whole of the town is inhabited by natives, except one lane some street in the north-east quarter, which contains the dwellings of Europeans, though the greater part reside in garden-houses in the suburbs.

The trade of Madras is much less extensive than that of either Calcutta or Bombay. In the table for the year 1836-37, the latest published, the imports in that year are stated to amount to £1,561,331 value in merchandise, and £470,332 in treasure; in all, £1,512,583. The former was chiefly from the United Kingdom, £271,532; Bengal, £290,593; Bombay, £158,135; Pegu, £135,019; Ceylon, £14,216; France, £25,494, and French ports in India, £35,672; Travancore, £38,421; Tranquebar, £15,700; China, £17,470; Penang and eastward, £23,739; the treasure was chiefly brought from Bombay and Bengal. The exports in the same period amounted to £2,210,785 value in merchandise, and £574,680 in treasure; total, £2,785,475. The goods were sent chiefly to Bombay, £791,214; United Kingdom, £476,720; China, £270,163; Ceylon, £183,581; Bengal, £110,007; Arabian and Persian Gulfs, £117,407; Penang and eastward, £126,030; the treasure was sent mostly to Bombay.

MEASURES, WEIGHTS, MONEY, BANKS, DUTIES, &c.

MEASURES AND WEIGHTS

These vary greatly in different districts, and the only general standards are the weights derived from the new tola or sicca, of late used in the Company's tables of duties. These weights are as follows:—

3 ruttees = 1 musha = 15 troy grains.
12 mushas = 1 tola = 180 troy grains.
80 tolas = 1 seer = 2½ lbs. troy, or (2·057 lbs.) nearly 2 lbs. 14½ drams avoirdupois.
40 seers = 1 maund = 100 lbs. troy, or 82½ lbs. avoirdupois.

The maund of 80 tolas to the seer is thus almost exactly equal to the Calcutta bazar maund; in the latter the seer is reckoned at 80 siccas, estimating however each sicca at 179½ troy grains.

Grain is usually sold by weight throughout India, as also liquids, except at Calcutta, Madras, and Bombay, where wines and spirits are sold by Imperial measure.

The following are the principal local standards:—

Calcutta.—The guz of 2 cubits = 1 Imp. yard;

the corg of cloth is 20 pieces; the Bengal common coss or mile = 2400 yards. [Coss.]

The bigrah of 20 cottahs = 1600 sq. yds.; and 30½ bigrahs = 10 Imp. acres.

The factory maund of 40 seers, or 640 chittacks = 74½ lbs. avoirdupois; and 3 factory maunds = 2 cwt.; the bazar maund, similarly divided, = 82½ lbs. avoird.; 10 bazar maunds = 11 factory maunds.

Bombay.—The guz = 27 inches.

The maund of 40 seers = 28 lbs. avoird.; the candy of 20 maunds = 5 cwt.; reckoned for grain at 25 Winchester or 24½ Imp. bushels.

At **Surat**, the candy of 20 maunds, each of 40 seers, = 746½ lbs. avoird.

Madras.—The coid = 18½ inches; but the cloth measure is the Imp. yard.

The cawney of 24 maundes = 57,600 sq. feet, or about 1 acre 1 rood 11½ poles.

The garse of 80 paruhs, 400 marcals, or 3200 measures = 300,000 cubic inches, or about 16½ Imp. quarters, estimated by weight at 9250 lbs. avoird.

The maund of 8 vis, or 320 pollams, = 25 lbs.

which ; and the unity of 20 annas = 100 (the old).

RUPEE

The unit of account throughout India is a rupee, which is generally divided into 16 annas each of 12 pice. Formerly rupees of various kinds were coined, but the currency of the three presidencies was assimilated in 1836, and the only one now in use is the "Company's rupee," containing 180 fine grains of silver 91½ per cent. fine (termed 91½ makh), or 165 grains of pure silver, and worth nominally 1s. 11½d. though commonly estimated at 2s. The other silver coins are double, half, and quarter rupees. Smaller payments are made in copper pice, or in little shells called *churis*. [COURTESY.]

The Company's rupee is declared to be in value equal to the Madras, Bombay, and Calcutta, and is 15 1/16ths of the Calcutta silver rupee. The last coin (weight 165½ grains silver, 91½ touch, or pure 150½ grains) is nominally worth 1s. 11½d. Formerly pieces in Calcutta were sometimes produced according to an ideal standard, called the current rupee, 114 of which = 100 Rs., the difference per cent. being termed *halla*. The price of gold coins is the new mohur of the same weight and fineness as the Company's rupee, and worth 2s. 3½d. It is a legal tender for 15 Rs. The Calcutta mohur of 84½ grains 91½ touch, or with 75½ grains, is a tender for 10 Rs. It is, however, being undervalued at these rates, is not demandable in payment, and is rarely in circulation. Silver is, therefore, the general medium of exchange and standard of value.

A *lakh* is 100,000 rupees, or about £1,000,000; a *crore* is 10 millions of rupees, or £1,000,000,000, a *rupee* is 100 pice.

In Indian notation, large sums are divided into periods of two figures only, except the last three. Thus a sum containing nine figures is pointed off thus, 27,34,50,377, and read fifty six crores, eighty four lacs, ninety three thousand, three hundred, and twenty seven.

Exchange. Bills on London are commonly drawn at Calcutta, Bombay, and Madras, at 6 months sight, or 10 months date, the usual quotations being from 1s. 11d. to 2s. 1½d. per Company's rupee. The average rate (including discount) at which the Company have of late years realized their remittances is 2s. per rupee. Bills between the different presidencies are usually drawn at 30 days sight.

BAKERS &c.

The banking business, in the hands of British subjects, has presented some peculiar features, and undergone considerable vicissitudes. It had, until a central bank in its great houses, with which the members of the public service lodged almost all their monies, and receiving interest at 10 per cent., were enabled to transfer their money to Britain. Deposits were used as a loan to the amount of many millions, for which discount was investment was found in advances to Indian planters who were, and others, also, willing to advance, and carrying on mercantile operations of their own. With these means a great wealth was accumulated, but after 1815, when the trade was thrown open to the public, the bankers, unable to invest their deposits with the same advantage as formerly, disinvested them in loans to improvident individuals, or in the purchase of houses, lands, and other securities, which could not be made available when a demand for money arose. Yet no alarm was then until the failure of Palmer and Co. in 1825; and even then confidence was not wholly withdrawn from the other houses who continued a struggle on several years, meeting the de-

mands gradually made for the deposits lodged with them by raising money in every mode, selling at ruinous loss, and mortgaging all descriptions of property till, at length, when they actually failed, there remained for the general creditors scarcely enough to pay 5s. 6-pence. The entire liabilities have been stated at £90,000,000, and the loss to the public at £15,000,000; but a writer in the Calcutta Monthly Journal for February 1826, seemingly on precise data, gives the following statement:—

Palmer & Co.	£1,000,000
Alexander & Co.	3,000,000
Maddisack & Co.	8,000,000
Farquhar & Co.	3,000,000
Colvin & Co.	1,500,000
Croftenden & Co.	1,500,000
	£14,000,000

Of this sum only a fourth, according to supposition, being paid to the creditors, there remained upwards of £10,000,000 of loss.

The accommodation now derived from banking is limited, though increasing. The Bank of Bengal, founded in 1806, a fifth part of whose stock is held by the Company, now possesses a capital of £1,000,000. It has a local charter, and issues notes, which are taken in revenue payments. The Union Bank of Calcutta, formed chiefly by partners of the liquid private firms, has now a capital of £500,000. Both, it is said, intend to form branches in the interior. At Aggra there is one of £500,000, chiefly established by the servants of the Company. The Bank of Madras is a small government establishment, for the convenience of the local authorities, it is now being enlarged. At Bombay a bank was lately founded, nearly on the same footing as the Bank of Bengal. The shares of all these banks are now at high premiums, and another called the Bank of Asia has been recently (1841) projected, with a capital of £1,000,000, and having the general management vested in a Court of Directors in London, after the manner of the British North American and other colonial banks. A joint stock bank at Madras is also projected.

The following were the rates charged by the Bank of Bengal in September 1841.—Discount on private bills, 3 months, 2 per cent. Discount on government and military bills, 2 per cent. Interest on loans on government paper, 4½ per cent.

Among the natives, paper-money does not exist, and yet banking in certain branches is an extensive occupation. One of its functions is to transfer money by bills of exchange, called *hawalas*, mostly of small amount, which are very well managed by the native bankers, or *shroffs*. All small payments, as already noticed, are made in copper, or in cowrie shells of above 8000 to the rupee, the furnishing of which occupies a numerous class of money changers. They sometimes carry shells to the value of £12, which they sell for an *ea*, to market in the morning, exchange them for rupees, and at the end of the day receive the cowries in return. They levy on the transaction 1-32nd, which it is supposed may yield them in the year 2½ per cent., but this is a great remuneration for their labour.

The main source of profit, however, among the native bankers, arises from making advances, which, through poverty and improvidence, are repaid by a large body of the people. In transactions with persons in good credit, the ordinary rate of interest is 2 per cent., but a much higher charge is made on loans to the agricultural population. Almost every native cultivator, or *ryot*, at the beginning of the season, receives an

credit seed-corn, and subsistence till the next harvest, the produce of which goes into the hands of the money-lender. He has usually indeed an annuity-current against him, which is never fully cleared off; and the interest is charged at the ruinous rate of at least 40 per cent. The rindars are also obliged to have recourse to them, paying from 24 to 30 per cent. These numerous exactions are accompanied, and indeed occasioned, by the risk of losing the principal; but when this is avoided, and a large business carried on, enormous fortunes are accumulated. Several native bankers in Calcutta, Benares, and other large cities, are supposed to be worth nearly a million sterling.

DUTIES.

Bengal Presidency.—The general rate of import duty on goods brought in British vessels is 3 per cent. *ad valorem*, but in foreign vessels, 7 per cent.; on marine stores and metals of British or colonial produce or manufacture, in British vessels, 3 per cent.; on woollens, do. do. 2 per cent.; coffee in British vessels, 7½ per cent.; tea, wines, liqueurs, and spices, do. 10 per cent.; spirits do. 9 annas per Imp. gallon; bullion, precious stones, grain, horses, ice, coal, and English books are free.

The duties are levied on the market value without deduction; and the whole are returned, saving 1th, if the goods (excepting opium and salt), are re-exported within two years of land-

ing: if the goods (saving opium and salt) are re-exported in the same ship, without being landed, no duty is exigible.

The general rate of export duty on country articles not enumerated, sent by British vessels, is 3 per cent., by foreign vessels, 6 per cent.; grain in British vessels, ½ anna per maund; indigo, do. 3 rupees per maund; on lac-dye and shellac, do. 4 per cent.; raw silk filature, do. 3½ annas per seer; Bengal wound silk, do. 3 annas per seer; tobacco, do. 4 annas per maund; double rates being exacted when exported in foreign vessels. Bullion, precious stones, living animals, and opium purchased at government sales, are free; also cotton-wool, if exported to Europe or America; and sugar and rum, if exported to United Kingdom or colonies.—(*Act of Governor in Council*, May 30, 1836.)

Bombay Presidency.—The import duties on the articles mentioned above are the same as at Calcutta.

The general rate of export duty is also, as at Calcutta, 3 per cent. on country articles sent in British vessels, and 6 per cent. when in foreign vessels; on tobacco, 1½ rupee per maund of 100 tolas to the seer; cotton-wool exported to Europe or America in British vessels, bullion, precious stones, books, living animals, and opium covered by a pass, free; opium not covered by a pass, prohibited.—(*Act of Council*, January 3, 1836.)

INDIA (DANISH) is limited to the two petty settlements of Serampore in Bengal, and Tranquebar on the Coromandel coast.

Serampore is situated on the Hooghly, 12 miles N. of Calcutta; pop. 13,000. It has little or no trade, but is celebrated as a missionary station, especially of the Baptists.

Tranquebar, a seaport and small territory on the Coromandel coast, is situated at one of the mouths of the Caverry, in lat. 11° 1' N. long. 79° 55' E., about 145 miles S. from Madras. It was purchased from the Rajah of Tanjore in 1616; pop. 20,000. Accounts are kept in rupees; and the maund weighs 68 lbs. Danish, or 74½ lbs. avoird.

The trade with these settlements was formerly in the hands of the Danish East India Company, —an exclusive body which was dissolved in 1838. In their hands it was very inconsiderable, but will now probably be increased.

INDIA (DUTCH). [JAVA. EASTERN ISLANDS.]

INDIA (FRENCH), according to Malte-Brun, comprehends Pondicherry and Carical, with their dependencies on the Coromandel coast; Yandon and its dependencies, with the factory of Masulipatam in the Northern Circars; Chandernagore and its territory, with Gorette and some other factories in Bengal; and Mahe, and factories at Calicut and Surat on the western coast. These are almost all inconsiderable and declining places. The principal is Pondicherry, the chief seat of government.

Pondicherry is situated in lat. 11° 57' N., long. 79° 54' E., 85 miles S.W. of Madras; pop. 40,000. The town is handsome, and, though destitute of a harbour, possesses a tolerable roadstead. Trade, however, is dull,—the British fiscal regulations being adverse to intercourse with the interior. Exports, rice, drugs, sugar, indigo, and blue linens. The money of account is the pagoda = 3 rupees = 36 fanams = 5s. 1d. nearly. Grain is sold by the garse of 600 mercals = 104.70 Imp. bushels. The maund = 8 vis = 25 lbs. 14 oz. 7 drams avoird.; and 20 maunds = 1 candy = 518.15 lbs. avoird.

These places have been generally captured by the British during war, and restored on the return of peace. All fortifications are destroyed; and the French are debarred by treaty from rebuilding them, or of maintaining any force beyond what is necessary for the purposes of police.

INDIA (PORTUGUESE) comprehends Damaun, Diu in Guzerat, and Goa; the last having a territory 40 miles in length by 20 in breadth, being the only place of consideration.

Goa, in lat. 15° 28' N., long. 73° 51' E., is situated on an island of the same name, at the mouth of the Mandona, 250 miles S. S. E. of Bombay. It was made by Albuquerque (by whom it was captured in 1510) the capital of the Portuguese possessions in the East; but it is now nearly superseded by New Goa, or Panjim, situated 5 miles distant on the seashore, and possessing one of the best harbours of India; pop. 20,000. This port, though formerly the centre of eastern commerce, has now only an inconsiderable trade with the mother country and the Portuguese settlements in China and Africa. Imports, chiefly piece goods, raw silk, ivory, sugar, woollens, glass, and some other European articles. Exports, hemp, betel-nut, cowries and toys, beads, &c. for Africa.

Accounts in Goa are kept in pardos, each divided into 4 good or 5 bad tanzas, also into 240 good or 300 bad reas; the pardo is equal 2s. 5d. nearly. The candy of 20 maunds = 415 lbs. avoird., estimated in grain at 14 Winchester bushels. The other measures are Portuguese.

INDIA RUBBER. [CAOUTCHOUC.]

INDIGO (Du. Fr. & Ger. *Indigo*. It. *Indaco*. Rus. *Krutick, Indigo*. Sp. *añil*), a fine blue dye extracted from various species of *Indigofera*, principally *I. tinctoria*, a knotty shrubby plant commonly propagated annually by seed. The indigo plant has been called "the child of the sun;" and a soil of the first degree of fertility, as well as a hot climate, are required to raise it in perfection. The grounds formed by the alluvial deposits of the tropical rivers have been found to experience the best adapted for the purpose. The dye is extracted from the plant by suffering it to ferment with water; during which it undergoes chemical changes that ultimately cause its deposition in the form of a blue feculent substance, which is collected and dried. Indigo, as met with in commerce, is in square cakes, or cubical masses of a deep blue colour. However carefully prepared, it always contains a considerable amount of impurities, the relative quantity of these being ascertained by its specific gravity, which is light in proportion to its purity. Mr Brande estimates the general amount of colouring matter at only 50 per cent (*Chemistry*, p. 943). In choosing indigo, the large regular-formed cakes should be preferred, of a fine rich colour, externally free from white mould, and of a clean net shape; when broken, the fracture should be of a bright purple tint, of a compact texture, free from white specks or sand, and when rubbed should have a shining copper-like appearance: it should swim in water, and when burnt by the candle it should fly like dust. This commodity is distinguished according to its different shades of colour. The principal shades are blue, which is the best, violet, and copper colour; and these are again subdivided into fine, good, and middling.

The indigo crop is subject to very great vicissitudes, both of quantity and quality; this leads to corresponding fluctuations of price; and it has been observed that of all the productions that have been made objects of commercial speculation, scarcely any has been a more fertile source of bankruptcies.

The chief localities of the indigo plant at present are Bengal and Guatemala, though of late years the exportation from the latter has been materially checked by the disturbed state of Central America. In the early period of our occupation of India, indigo formed a leading branch of the Company's trade; but the rude manufacture of the native population was, in course of time, expelled from the markets of Europe by the more skilfully prepared drug of America and the West Indies. Soon after the peace of 1783, the West Indian process of manufacture was introduced into Bengal, and the directors having relaxed their prohibitory system so far as to permit the application of British capital and skill to the cultivation of the plant on the alluvial depositions of the Ganges, the exportations were gradually increased, and the American and West Indian article almost entirely driven from the market. The manufacture was also introduced into Oude and the other north-western districts of the great Gangetic plain; and in later periods into some of the Madras provinces,—into Java, and into the Philippine Islands. The indigo produced every where else is, however, very secondary both in quantity and quality to that of Bengal and Bahar, the soil and climate of which seem to be peculiarly congenial to the plant. The average annual supply and consumption of indigo at present may be estimated as follows:—Supply: Bengal provinces, 34,500 chests, equal nearly 120,000 maunds, or 9,000,000 lbs.; other countries, including Madras and Guatemala, 8500 chests; total, 43,000 chests. Of this there is consumed in the United Kingdom 11,500 chests, or about 3,000,000 lbs.; France, 8000 chests; Germany and rest of Europe, 13,500 do.; Persia, 3500 do.; India, 2500 do.; United States, 800 do.; other countries, 2000 do.; total, 43,000 chests, or upwards of 11,000,000 lbs. The consumption of late years has not increased in a ratio corresponding to the expansion of manufactures,—a circumstance which seems to be attributable partly to the less common use of blue cloth, and partly, perhaps, to the introduction of cheap substitutes suggested by the advanced state of chemical knowledge.

The quantity imported into the United Kingdom was, in 1820, 5,089,292 lbs.: in 1825, 6,793,631 lbs.; in 1830, 8,216,440 lbs.; in 1835, 4,168,395 lbs. In 1840, the exports amounted to 5,831,269 lbs., and the quantity entered for home consumption, 3,011,990 lbs. Upwards of 4-5ths of the imports are from the East Indies; the remainder chiefly from the West Indies, Guatemala, Peru, and the Philippine Islands. The surplus imported beyond the quantity consumed is re-exported to Germany, Russia, Italy, Holland, and other parts of the continent of Europe. France and the United States derive their main supplies by direct importation from Calcutta.

The following shows the prices in bond of the different kinds of indigo in the London market according to Prince's Price Current of September 17, 1841.

Guatemala & Caraccas							
Floras.....	lb.	s.	d.	s.	d.	s.	d.
Sabres.....	5	3	..	6	6	Bengal ordin. violet and copper lb.	5 6 to 5 9
Cortes.....	2	9	..	5	4	Oude good and fine.....	4 6 .. 5 6
Bengal fine blue.....	7	9	..	8	3	Low and middling.....	1 9 .. 4 3
Fine purple and violet.....	8	3	..	9	0	Madras good and fine violet and blue.....	5 3 .. 6 3
Good do.....	7	9	..	8	3	Ordinary & middling do.....	1 10 .. 5 0
Middling.....	7	3	..	7	6	Java.....	none.
Copper fine.....	7	6	..	7	9	Manilla good & fine.....	none.
Good and middling.....	8	10	..	7	3	Ordinary and middling.....	1 9 .. 4 9

The American indigo is generally enclosed in sacks of coarse linen sewed into an ox hide, a kind of package which is called a *seron*, and contains usually about 250 lbs. The East Indian is in chests of about 3½ factory maunds, or 260 lbs.

INDORSATION: INDORSER. Indorsation is the assigning of a negotiable document, such as a bill of exchange or promissory note, by a writing on the back. The person who assigns is called the Indorser, the person in whose favour the assignation is made, the indorsee. Indorsement, in its full and common acceptation, conveys to the indorsee all the rights previously existing in the indorser, with the addition of a claim against the indorser himself. To enable this to be accomplished, however, with an English or Irish bill, there must be words intimating an intention on the part of the acceptor to pay to any bearer, or to any person holding right through the original payee, such as, "or order," "or bearer," otherwise the bill is a mere chose in action [*CHOSE IN ACTION*], and the indorsement does not convey a right against the maker, but merely a claim on the indorser. It is held, however, that negotiable words omitted by mistake may be supplied (*Chitty*, p. 219). In Scotland, every bill or note is negotiable, unless it bear a special restriction. A bill payable simply "to bearer" is transferable without indorsement; but the person who delivers it does not by such act become a party. By 17 Geo. III. c. 30, bills and notes for sums of 20s. and upwards, but under £5, can, in England, only be indorsed before the time of payment, and must bear date at, and not before, the time of making thereof, and must be attested by a subscribing witness.

There is no form of words necessary for an indorsement,—the mere signature of the payee, called a blank indorsement, is a sufficient transference to the bearer. An indorsement with the name of the indorsee, and instructions to pay to him, is an indorsement in full. If a bill is once indorsed blank, it is assignable by delivery, notwithstanding posterior indorsements in full, unless they be restrictive. A restrictive indorsement may restrain the negotiability of a bill. "Pay to A B only," or "Pay to A B for my use," are forms of restrictive indorsements. Others may be conditionally restrictive, so as to prohibit negotiability until the condition is purified, as "Pay the contents to A B on my being gazetted ensign, before the day of .." An indorsement is not restrictive from having a consideration on the face of it. An indorsement may be qualified so as to bar the responsibility of the indorser, and merely transfer to the indorsee the claim against the previous parties. The usual form of accomplishing this is by appending to the signature the words *sans recours*. A bill cannot be indorsed for part of its contents after acceptance; but if partly paid, it may be indorsed as to the residue. A person who has delivered a bill without indorsement, when it was the understanding of parties that it should be indorsed, may be compelled in equity to do so; and if he die in the mean time, his executor or administrator may indorse.

An indorsee of a bill, who has given value for it, is not liable to objections which may be pleaded against a previous holder, unless aware of them when he took the bill. In England, however, a person who takes a bill protested for non-acceptance or overdue, does so with all the objections pleadable against the indorser. In Scotland, it appears to be held that the circumstance of a bill being overdue does not of itself affect the right of the indorsee, and is only a circumstance attended with more or less suspicion. A bill paid by the party originally liable ceases to be negotiable; but not so a bill paid by an indorser. Where the illegality of the original transaction makes a bill or note void, an indorsee, however onerous, cannot recover from the original drawee, but the indorser is liable to him, both on the bill and for the original debt. An indorser on whom recourse is intended to be had, must receive notice of non-acceptance or non-payment; and though, as between the drawer and drawee, notice may be rendered unnecessary from want of value, this will not affect the indorser's right to notice. (*Bailey on B.*, 120-170. *Chitty on B.*, 218-297. *Thomson on B.*, 250-308.)

INGOT, a mass of metal.

INK (Fr. *Encre*. Ger. *Dinte*) is composed of different ingredients, according to

poses to which it is to be applied. *Printing Ink* is a black paint, which, by its drying nature, adheres readily to moist paper. It is chiefly composed of linseed oil, which is ignited when in a boiling state, and suffered to burn till it has acquired the necessary drying quality; after which it is mixed with black when black ink is required, and vermilion when it is wanted of a colour. *Writing Ink* is either black, red, or blue. The best black is made by boiling Aleppo galls in water, and then adding sulphate of iron,—the precipitate being kept suspended by gum-arabic: the proportions in general use are 1 gallon to 1 lb. of sulphate of iron and 1 lb. of gum-arabic; that of water is 1 gallon to 1 lb. of galls. Logwood is sometimes used instead of galls for a black ink, but it does not yield a permanent colour. Red ink is made by boiling logwood in weak vinegar, and adding alum. Blue ink is manufactured from ferro-prussiate of potash and oxide of iron. *India, or China Ink*, employed in painting, consists of fine lamp-black mixed with gum-water or fine size. The oldest inks anciently in use appear to have been all of this kind. *Marking Ink*, used by dyers, is generally a solution of nitrate of silver, which is written upon the fabric it has been impregnated with an alkaline solution, as carbonate of soda. Inks in which lamp-black is the colouring matter will be always the most durable; but the common ink possesses the advantage of flowing easily from the pen. The manufacture of printing ink is chiefly confined to London; that of writing ink is more widely distributed. All kinds are exported, but the whole amount is considerable.

INLE, a kind of broad linen tape made at Manchester.

INN AND INNKEEPERS. The only department under this head, coming within the limits of the present work, is the law in relation to the liability of innkeepers for the property of travellers coming under their roof. An innkeeper, by entering his trade, comes under a contract of insurance with each guest he receives, becoming liable to indemnify him for property lost, without reference to the place or in which the loss has been occasioned,—provided it have not originated in the guest's own carelessness or misconduct. If loss be occasioned by the guest's companion or servant introduced by him to the inn, the loss is his own. The liability is placed on the same principle as that of carriers, and is in almost all respects the same, with the difference that it has not been yet limited by statute. [CARRIERS.] How far the innkeeper can limit his responsibility by warning the guest, is a doubtful point. It is held that the law being fixed, the guest entering an inn under the assurance of its protection, cannot be deprived of it at his will by any warning or intimation which the landlord may choose to give. (*Dalton's Justice*, 133): but if the guest acquiesce by taking the goods under a special charge, the responsibility is removed (*Burgess v. Clements*, 4 M. & W. 810). There is considerable nicety as to the extent to which the guest is bound to see his property put in the right place, or deposited with the right person. If he leaves valuable goods in a courtyard or passage, without drawing attention to them, will have no recourse: on the other hand, where it was the rule of the inn to deposit the guests' goods in their bedrooms, and a traveller directed his baggage to be taken to the commercial room, where it was stolen, the landlord was found responsible. It appears that he would not have been so, however, had he expressly declined to take charge of the goods unless they were deposited in the common room.—(*Richmond v. Smith*, 2 Mann. & Ry. 235.)

It is a farther obligation on an innkeeper, that he must receive every guest who presents himself, until his establishment is filled. He is not bound, however, to give notice, and before submitting to this his obligation to the public, he may require a reasonable remuneration to be first tendered.—(*Chitty's Burn's Justice*. *Althouse*, 5 Str. E. L. Tomlin's L. Dictionary, voce *Inns*.)

SOLVENCY, in its most simple and extensive meaning, denotes a man's ability to meet his debts. It is applied only to a person who is not under the operation of the bankrupt statutes, whether from his not belonging to the class of persons to whom the acts apply, or from that method of disposing of the debts not having been adopted by the creditors. Every bankrupt must necessarily, however, be an insolvent. In Scotland, the former expression is applied to all persons, whether tradesmen or not, who have shown certain public symptoms of inability to pay the debts demanded of them; and these indications, to constitute a species of bankruptcy, must always be accompanied by insolvency. In England and Ireland, the term insolvent is now technically used with reference to such persons as are taking advantage of, or subjected to the operation of the insolvency laws which provide a sort of bankruptcy system for those debtors who do not come

within the operation of the traders' bankruptcy statutes. In Scotland, the name by which the equivalent process is known is *cessio bonorum*; and the term insolvent is not there technically applied to a debtor undergoing this process. [Cessio.]

There have been three separate means of relief open to imprisoned debtors in England, viz. the lords' act, the small debtors' act, and the general insolvent debtors' act. The first of these, which was partly suspended by the earlier insolvent acts, and partly in disuse, is entirely abrogated by the last insolvent act (1 & 2 Vict. c. 110, § 119). The small debtors' act, 48 Geo. III. c. 123, provided for the release of those who have been 12 months in prison, on debts not exceeding £20; but by the latest insolvent act this also has been virtually superseded.

A separate court for the relief of insolvent debtors was first constituted by Lord Redesdale's act, 53 Geo. III. c. 102, and was continued by four acts of the reign of George IV., the last of which, 7 Geo. IV. c. 57, was the existing statute down to the passing of Sir John Campbell's act, commonly called the Act for abolishing Arrests in Mesne Process (1 & 2 Vict. c. 110), by which the insolvency system was improved. The court consists of a chief and three ordinary commissioners, and is a court of record, with full powers for enforcing its jurisdiction. An individual commissioner may hold a plenary court; and there are arrangements in the act for enabling the commissioners to hold circuit courts. The act has two objects in view: in the first place, the protection of debtors from oppressive imprisonment; in the second, the affording a summary process to creditors for distributing the available property of a debtor. When a debtor applies for the benefit of the act, he must be within the walls of a prison. The act may be taken advantage of by the creditors of an insolvent, on his remaining 21 days in prison without satisfying the debt for which he was imprisoned. In either case, the operation of the act is applied for by summary petition to the court. The result is, an order vesting in the provisional assignee the whole property of the insolvent, real and personal, existing or contingent, with the exception of apparel, bedding, and other necessaries, and workmen's tools, not exceeding, on the whole, £20 in value. There are specific provisions for the vesting and disposal of the several kinds of property, and exceptional provisions for adjustment in the case of public officers, clergymen, and others. The creditors have a partial control in the disposal of property. There are arrangements for the examination of the insolvent, and for making the necessary investigations into the amount of his property, the circumstances out of which his involvements have arisen, and such like. After the examinations are over, the debtor is to be discharged, either forthwith, or at such a time that his imprisonment shall not, on the whole, exceed six months, computed from the order vesting the estate in the assignee, unless there be special reason for punishing him by a longer imprisonment. In certain cases of fraud connected with the proceedings on the petition, the court may adjudge the confinement to continue for such a period as shall not make it on the whole exceed three years (§ 77). In certain cases enumerated in the act, where the circumstances connected with the insolvent's embarrassments show fraud or gross recklessness, the imprisonment may, in like manner, be continued for *two* years. The result of a discharge is, that the debtor is relieved from execution and imprisonment for the debts to which the discharge applies.

IN IRELAND, the system for the relief of insolvent debtors was adjusted on the model of the English act by 3 & 4 Vict. c. 107. The amount to which the debtor's wearing apparel, bedding and tools, are there privileged, is £15.

INSURANCE, in its legal definition, is a contract of indemnity, one party engaging to make good to another the pecuniary loss that may be, or may be presumed to be occasioned by any future or contingent event, in consideration of a sum certain received or promised. The most obvious subjects of insurance are those which can be measured by a pecuniary value, and to this fair estimate of loss, insurances by individuals on their own lives is the only exception; a case in which no mischief can arise from the insured valuing his life at the sum for which he can pay the premium of insurance. In this contract, the person who insures is called the Insurer, and technically the Underwriter, from his writing his name (in marine insurances) under the sum he will stand good for. The party obtaining the insurance is called the Insured, or the Assured, and the deed by which the insurer becomes bound is called a Policy of Insurance.

The principle of insurance is that of equalizing the accidents of life or fortune, by many joining together and consenting that all shall bear the average lot of the whole; or, what is the same, of reducing to each individual, in every case, his possibility of loss down to the average loss of a great number of individuals or cases. "Though based upon self-interest," says Professor De Morgan, "yet it is the most

med and benevolent form which the projects of self-interest ever took. It is, in a limited sense, and a practicable method, the agreement of a community for the goods of its individual members as common. It is an agreement that whose fortune it shall be to have more than average success, shall resign the same in favour of those who have less. And though as yet it has only been applied to the reparation of the evils arising from storm, fire, premature death, disease, &c., yet there is no placing a limit to the extensions which its application may receive, if the public were fully aware of its principles, and of the safety with which they may be put in practice.”—(*Essay on Probabilities*. Preface, p. xv.)

As part of the work we shall consider the three great divisions of the contract, Fire, Life, and Marine Insurance; but a variety of other information, directly or collaterally bearing upon the subject, will be found under the heads ANTI-FRIENDLY SOCIETY, INTEREST AND ANNUITIES, and REVERSIONS.

FIRE INSURANCE (FIRE) is a contract for indemnity against losses by fire within a fixed period. In this country such insurances are made by joint-stock societies, of which two kinds are distinguished: proprietary companies, who insure at their own risk and for their own profit; and mutual or contribution societies, the members of which are members or partners, and participate in the profit or loss. A particular account of the conditions on which insurances are granted may be obtained from any of the offices, or their agencies, several of which are established in every town throughout the kingdom. These conditions are always contained in the policy; and this document usually provides that the office shall pay the loss and damage suffered by the assured, not exceeding the sum fixed, “according to the tenor of the printed conditions hereunto annexed.”

Merchants sometimes keep open a floating policy on “goods their own, in trust, for commission,” by which means all the merchandise in their possession, where deposited (within the district over which the insurance is made to extend), is covered either wholly or in part, according as the aggregate value of such merchandise shall happen to be under or above the sum insured. A loss under such a policy is settled on the average principle. Thus, if an insurance of £10,000 is effected without specification, and a loss of £2000 incurred, the merchant would be required to show the total value of the goods held by him. Supposing it to be £20,000, double the amount insured, he would in such case be entitled to recover £10,000, as he must bear his own risk on the £10,000 uninsured.

“Conditions” usually provide that persons insuring at the office must give notice of any other insurance made elsewhere on their behalf on the same subject, and require such other insurance to be indorsed on their policies. This clause is introduced to protect the offices against the fraud of persons attempting to recover more than the loss sustained by them.

No precise account was ever published of the proportion of insured houses upon which claims have arisen. The premiums, therefore, are not computed as in life insurance, from exact data, but, as in marine insurance, simply from a loose general estimate of the risk. The risks are usually divided by British offices into four classes, termed Common, Hazardous, Doubly Hazardous, and Special or Extraordinary. For the first, the annual premium is 1s. 6d. per cent.; for the second, 2s. 6d.; for the third, 4s. 6d.; for the special risks the premium varies of course according to the particular circumstances of each case. But a duty is besides payable to the government of 1s. for each policy, and of 3s. per cent. per annum on the sum insured, except in the case of farm-produce, stock, and implements, which are exempted from duty. This advantage to the agricultural interest over the marine classes of the community was granted by the act 3 and 4 W. IV. c. 23.

Fire insurance is of modern origin, having been little known before the Revolution. Since then the practice has become general throughout this kingdom, and has been partially introduced into many foreign countries. The number of British offices is at present about sixty. In the year 1840, the amount of duty paid by several of the principal companies, and accounted for by them to government, was as follows:—Sun, £162,109; Phoenix, £133,339; Royal Exchange, £104,400; Norwich Union, £67,665; County, £45,481; West of England, £33,746; London and Lancashire, £33,251; Globe, £32,246; Imperial, £31,263; Alliance, £26,310; Atlas, £25,000; Manchester, £20,881; Scottish Union, £20,553; Union, £19,355; Western, £18,659; British, £18,478: And by the other offices, £231,608: Total, £1,000,000, which, as the duty is 3s. per cent., shows the value of the property insured.

The above was the gross sum; an allowance of 4 or 5 per cent., according to circumstances, is paid to the offices for collecting the duty, which reduces the net revenue drawn by the government from fire insurances in the above year to £944,321.

insured to have been £660,524,000. Adding to this, £54,715,016, the amount on farming-stock, makes the total amount insured in 1840, £715,239,016, a sum which, immense though it be, might be greatly increased, but for the oppressive duty, which on common risks amounts to no less than 200 per cent. on the premium.—(*Par. Papers*, 1841: Nos. 173 & 326.)

LAW OF INSURANCE AGAINST FIRE.

This contract is ruled by the same principles which affect marine insurance [see below], so far as these are applicable to the nature of the contract. There have been fewer litigated cases illustrative of the law in this department, but the authorities refer to the cases in marine insurance as precedents. The policy is always an open, not a valued one, there being no abandonment. The contract is generally renewable from year to year, on payment of the premium in advance; and it is usual to stipulate that the policy shall not lapse until after some definite number of days beyond the expiry of the year. By 14 Geo. III. c. 48, the insured must have an interest in the subject, as proprietor, creditor, agent, or trustee: and it is said that a depositary or holder in pledge might show a sufficient interest, subject to the rules established by the office, which have the effect of stipulations between the parties. No more can be recovered than to the extent of the interest, and so when the same subject is insured at more than one office, each pays rateably. The risk insured against is fire, or ignition. To enable the insured to recover, something must have been actually on fire which ought not to have been on fire; and so the effects of heat radiating from fire in its proper place are not included. The business of sugar-refining was pursued in a building of several stories, to each of which heat was communicated by a chimney passing through the whole building, and at the top of the chimney there was a regulator, kept closed at night to retain the heat, but which ought to be open while the fire was burning. On one occasion it was shut at an improper time, and the building was filled with smoke and sparks which occasioned damage. It was found that the insured had no claim on the policy, though it warranted them "against all the damage which they should suffer by fire" (*Austin v. Drewe*, 6 *Taunt.* 436). If there be ignition, however, though not of the subject insured, the injury occasioned by the event is within the policy, though more immediately caused by the efforts to protect the subject from the fire, as by the removal of furniture. In Scotland, where a neighbouring house had been consumed, a gable of which was left standing unsupported, and in the attempt to take it down, it fell against the insured premises, and destroyed manufactures contained in them, this was held a loss within the policy. (*Johnston v. West of Scotland Ins. Co.* 1828, 7 *S. & D.* 52.)

The extent of the insurance must often be interpreted from the general scope of the definition. Where "stock in trade, household furniture, *linen*, wearing apparel, and plate" were insured, the word "*linen*" from the context was held to include only household linen, and not linen drapery goods purchased on speculation (*Watchorn v. Lanford*, 3 *Camp.* 422). Warranties must be strictly complied with as in marine insurance [WARRANTY]; and so when there is a scale of risks, and property is insured as of a lower class than that to which it belongs, the policy is void. Some risks generally termed "extraordinary" are not included in the tables of premiums, but must be the subject of special contract. A material misrepresentation will vitiate the contract as in marine insurance. Concealment of a circumstance materially affecting the risk will have the same effect, though it should happen to be the result of mistake and not of fraud; hence, where a fire had taken place in the close vicinity of the property insured, and the fire was apparently extinguished, and persons employed to watch the place, and in the mean time the insurance was negotiated, the circumstance was held one which ought to have been communicated; and the fire breaking out again two days afterwards and burning the premises mentioned in the policy, there was no recovery for the loss (*Baile v. Turner*, 6 *Taunt.* 338). It is a usual condition that "no loss or damage by fire happening by any invasion, foreign enemy, or any military or usurped power whatsoever, will be made good." The term "usurped power" has been held not to apply to a mob, but only to embrace the case of rebellion, where there are armies and military operations, during which the civil laws are silenced. The expression "civil commotion," however, will except all acts of popular violence. There is generally indorsed on the policy the method of claiming for a loss, the period at which the claim may be made, and certain articles of evidence which the claimant must adduce. It is not unfrequently a condition that he must produce "a certificate under the hands of the minister and churchwardens [or in Scotland the elders], together

with some other reputable inhabitants of the parish, not concerned in such loss, importing that they are well acquainted with the character and circumstances of the person insured, and do know or verily believe that he really and by misfortune, without any fraud or evil practice, has sustained by such fire the loss and damage; but till such affidavit and certificate of such insured's loss shall be made and produced, the loss-money shall not be payable" (*Ellis*, 61, 62). In England, such a clause has repeatedly been held as a condition precedent, and of the nature of a warranty which must be absolutely complied with before there can be a claim for loss,—the unreasonableness of the refusal to sign the certificate not affecting the question. In Scotland there seems to have been no case on the point. Professor Bell, however, is of opinion (*Comm.* I. 168) that, though "the want of those compurgators will raise an unfavourable presumption against the insured," yet "it does not seem to be law in Scotland that these are all absolute conditions precedent to the recovery of a loss by fire, so as to have the effect of enabling persons hostilely disposed towards the insured to extinguish his claim for loss."—(*Park on Insurance*, 665-670. *Marshall on Insurance*, 785-813. *Ellis on Fire and Life Insurance*.)

INSURANCE (LIFE) OR ASSURANCE, a contract for payment of a certain sum, or of an annuity, in the event of the death of a particular person, in consideration of a premium paid at once, or periodically. Assurances are said to be *absolute* when the sum assured is payable on the death of the party assured; *contingent*, when the payment of this sum depends upon some other event, as the existence or antecedent death of some other person or persons. They may be also divided into *temporary* assurances, where the sum is payable only in the event of the expiry of the life within a certain limited time; *deferred* assurances, where it is payable in the event of the expiry of the life after a certain time; and assurances for the *whole life*, payable on the expiry of the life assured, at whatever time this may happen. Assurances are also effected on joint-lives, under various contingencies; but the greater number are those made on policies for the whole period of a single life, in consideration of an equal annual premium.

Utility of Life Assurance.—Life assurance may be made subservient to many purposes. Of these, the principal is enabling persons dependent on their own personal exertions, or whose income ceases at their death, to secure a provision for their surviving dependants; but it is also highly useful in various commercial and legal transactions. Among others, the following may be enumerated:—

Capital laid out in the purchase of annuities depending on a life will acquire permanence by assuring such life.

Securities on life interests may, by assurance, be rendered eligible for the purpose of raising loans.

Fines may be applied for the renewal of leases, determinable upon the demise of a party or parties. The guardians of a person who, at a certain age, will come into the possession of property, may obtain a security for advances made in the interim, by assuring his life until he shall arrive at the given age. Dependants on the lives of others may, by assuring such lives, be relieved from the anxiety natural to their situation.

A debtor who is unable to satisfy the demands of his creditors immediately, but who may have the means of liquidating the amount in a certain time, should he live so long, may, by the aid of a temporary assurance on his life, offer a satisfactory arrangement; or, should his views fail in discharging his debts in the given time, and he or his creditors continue the assurance, the amount will by that means be realized at his decease.

Persons having issued post obit bonds may realize their amount at the time they become payable, by assuring the life or lives on whose failure they become due.

Marriage settlements may be effected advantageously through the means of life assurance, particularly where the husband is engaged in trade. For example; if the lady's fortune be £2000, one-half may be placed at the gentleman's disposal, and the remaining half be invested in the funds, in the names of trustees, on behalf of the lady. The interest on this investment, employed in an assurance on the gentleman's life (his age being 25), will realize £2000, the whole amount of the lady's fortune, at his decease, which, with the principal money in the funds added, gives £3000, the lady's original fortune increased by one-half, and independent of whatever the husband may have made of the moiety he received.

It is, however, almost impossible to detail the various ramifications of the system, or to limit the extent to which it may be carried in a country such as Great Britain. It encourages all to the moral obligation of exercising forethought and prudence, since through its means these virtues may be successfully practised, and their ultimate reward secured. These are benefits which it confers upon the individual. But the system is likewise highly beneficial to society at large, inasmuch as while the annual premiums are considered as a part of expenditure, they and the accruing interest on them are in truth so much added to the productive capital of the community. It was therefore with much justice that Mr Morgan considered "every assurance made for the purpose of providing for a surviving family, in whatever office it is effected, not only as a private but as a public good."

Assurance Societies.—The assurers in this country are generally public companies

or offices. The oldest of these is the Amicable, chartered in 1706 ; next, the Royal Exchange, and London Corporation, both in 1720 ; then the Equitable, in 1762. In 1792, the Westminster was founded ; then the Pelican in 1797 ; and the Globe in 1799. Many other societies have been founded since the commencement of the present century, and their number is at present nearly ninety, which is exclusive of those whose operations are confined to particular professions or trades. The premiums required are adjusted according to the age of the party on whose life the assurance is made. They are lowest on young lives, and increase from year to year as the expectancy of life diminishes. The rates of many of the offices are calculated according to a table of the duration of life, founded on the Northampton bills of mortality ; others, according to later tables formed from observations upon the population of Carlisle, and on the mortality found to exist among the government life annuitants. [INTEREST AND ANNUITIES.] The Northampton tables, principally used by the older offices, show a much higher (or more rapid) mortality than is now found to obtain, and very large profits have in consequence been realized by many establishments, particularly those, such as the Equitable, who have besides reckoned upon money being improvable at only 3 per cent. interest. The younger offices have commonly arranged their scales of premiums upon views more favourable to the continuance of life. Yet even in those cases considerable savings are generally realized, as the mortality prevailing among assured lives is commonly less than that indicated by any of the tables at present in use, owing to improvements in medical science, as well as in the habits of the people since these tables were constructed ;* while, again, assurance offices have, by the purchase of reversions and otherwise, frequent opportunities of investing their funds at a much higher rate of interest than that at which their premiums are computed.

The annexed table shows in a classified form the annual premiums demanded by nearly all the British offices, and by two foreign offices, for an assurance of £100 on the whole life, after the ages 30, 40, and 50. It also exhibits the precise rates at these ages, according to different tables of mortality, reckoning interest at 3 per cent., or the annual premium which, accumulated at the said rate of interest, would exactly amount to £100 at the expiration of life, as shown by these tables.

1. The offices included in the first class are, *proprietary*, or joint stock companies, with a subscribed or paid-up capital, which assure to a person paying a fixed premium a fixed sum at his death, and divide their profits entirely among their shareholders. This system, therefore, is merely the sale of an insurance to those who are disposed to purchase, at such prices as shall leave a profit to the proprietors.

2. The second class consist of *mutual assurance societies*, which have no proprietary, but divide all their profits among the assured, after deducting the expenses of management, and reserving a guarantee fund. The mode of calculating profits, however, and the proportion reserved for a guarantee fund, appear to differ in all. Thus—the Amicable distributes profits equally, share for share, among the representatives of the deceased members, without reference to the time during which the assurance may have continued : the Equitable divides theirs only among the 5000 members who have been longest assured : the Norwich Union adds septennially the whole of the surplus premiums to the policies in proportion to the sums paid : the Scottish Widows' Fund adds two-thirds of their surplus premiums septennially to the policies, not only *retrospectively* in regard to the number of premiums paid, but also *prospectively* in regard to all policies that may emerge before the next stated period of investigation : and the Scottish Provident reserves the surplus entire for those members who survive the period at which their premiums, with accumulated interest, amount to the sums in their policies. These, as well as the other plans, will be found more fully explained in the prospectuses issued by the different offices.

3. The third class, called *mixed mutual and proprietary associations*, generally divide their profits in a certain proportion betwixt a body of proprietors and the parties assured at stated periods, commonly every five or seven years. The share of the assured is, by many of the offices of this class, as well as of class 2d, either added to the policy, or applied in reducing the annual premiums, in the option of the party. The proportions allowed to the assured by the different offices, in so far as the same have been made public, are as follow :—*Five per cent.*, Westminster ; *Two-thirds*

* The principle acted upon by offices of rejecting bad lives might also be supposed to preserve their rate of mortality above the average ; but this is counterbalanced by the adverse interests which lead, notwithstanding every precaution, to policies being effected upon many such lives. Hence the utmost vigilance is necessary on the part of offices to keep insured lives up to the ordinary standard.

TABLE of the Annual Rates of Premium charged by each British Office at the Ages of 20, 40, and 50, for an Assurance of £100 upon a single Life.

	Age 20.	Age 40.	Age 50.	Year estd.	Age 30.	Age 40.	Age 50.
	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.
1. Proprietary Companies.					3. Mixed continued.		
1840 Agricultural.....	3 4 3	19 11 4	5 0	1838 English and Scot-	2 9 9	3 6 6	4 10 9
1840 Albion.....	2 6 0	2 3 4	7 0	1840 Equitable (New)	2 8 1	3 5 4	8 9 9
1835 Argus.....	1 19 10	2 13 9	3 19 3	1819 European ..	2 9 3	4 3 4	8 8 8
1834 Asylum.....	2 2 0	2 17 1	4 2 0	1830 Family Endowm.	2 9 7	3 2 4	10 6 6
1837 Britannia.....	2 0 2	2 15 1	4 1 4	1838 Freemasons ..	2 7 5	2 10 4	9 3 3
1840 Farmers.....	2 4 1	2 18 10	4 5 5	1838 Glasgow ..	2 9 1	3 10 4	6 11 1
1833 Globe.....	2 13 5	3 7 11	4 10 8	1821 Guardian....	2 10 7	3 5 4	8 0 0
1837 Polyan.....	2 8 3	3 7 4	7 3	1807 Hope	2 13 5	7 11 4	10 8 8
1830 Royal Exchange.	2 13 3	3 8 0	4 10 9	1820 Imperial ..	2 13 5	7 11 4	10 8 8
1834 Yorkshire	2 5 0	2 19 9	4 1 9	1823 Law Life ..	2 13 5	7 11 4	10 8 8
1834 York & London..	2 3 0	2 17 3	4 0 7	1836 Legal & General.	2 10 9	3 5 11	4 10 9
2. Mutual Associations.*				1836 Lic. Victuallers	2 5 8	1 3 4	9 6 5
1840 Amicable	2 10 6	3 5 0	4 15 6	1841 Life Assoc. of Scot.	2 8 7	3 1 4	13 3 3
1837 Cergy	2 6 4	2 2 4	7 4	1793 London Assurance	2 11 11	3 7 0	4 10 1
1830 Equitable.....	2 13 5	3 7 11	4 10 8	1806 London Life ..	2 12 0	3 15 0	5 4 0
1830 Hand in Hand ..	2 13 5	3 7 11	4 10 8	184. London, Edin-			
1830 London & West-	2 9 6	3 6 3	4 12 0	burgh, & Dublin	2 8 10	3 5 0	4 10 7
1830 Metropolitan....	2 9 9	3 5 4	4 12 0	1824 Manchester ...	2 10 7	3 5 0	4 8 0
1830 Mutual	2 10 2	3 7 5	4 12 7	1838 Minerva ..	2 10 7	3 5 0	4 8 0
1830 National Provi-	2 10 9	3 6 3	4 11 1	1837 National Endow-			
1830 Norwich Union.	2 8 10	3 2 0	4 8 0	ment	2 5 6	3 9 0	5 8 6
1830 Scottish Amicable	2 11 1	3 5 6	4 8 3	1830 National....	2 9 5	3 7 5	4 18 7
1830 Scottish Equitable	2 11 1	3 5 6	4 8 4	1817 National Loan Fd.	2 9 3	3 5 3	4 13 6
1830 Scottish Provident	2 1 6	2 14 9	4 1 7	1820 North British ..	2 9 5	3 6 1	4 11 11
1830 Scottish Widows F.	2 11 1	3 5 6	4 8 4	1820 North of Scotland	2 5 6	2 19 5	4 7 1
1830 United Travellers	2 8 11	3 4 11	4 10 6	1797 Palladium	2 13 5	3 7 11	4 10 8
3. Mixed Mutual and Proprietary.				1826 Promoter ..	2 9 2	3 6 4	14 2 2
1830 Aberdeen	2 5 7	2 19 7	4 6 10	1835 Protector ..	2 10 7	3 5 0	4 8 0
1830 Active	2 6 10	3 1 6	4 4 9	1839 Protestant Dissen-			
1830 Allied	2 13 5	3 7 11	4 10 8	ters	2 11 1	3 7 0	4 15 0
1830 Alliance	2 9 2	3 6 6	4 14 2	1806 Provident ..	2 13 5	3 7 11	4 10 8
1830 Atlas	2 13 5	3 7 11	4 10 8	1840 Rock	2 13 5	3 7 11	4 10 8
1830 Australasian	2 0 7	2 15 3	4 1 8	1837 Royal Naval and			
1830 Benevolent	2 6 4	2 2 8	4 12 2	Military ..	2 12 3	3 7 8	4 14 6
1830 British & Colonial	2 8 10	3 5 0	4 10 7	1824 Scottish Union ..	2 9 11	3 5 0	4 7 9
1830 Best Commercial	2 13 5	3 7 11	4 12 11	1825 Standard....	2 10 7	3 4 11	4 8 6
1830 British Empire ..	2 8 4	3 4 7	4 12 4	1835 Standard of Eng-			
1830 Caledonian	2 9 10	3 4 2	4 7 0	land ..	1 19 7	2 13 5	3 18 9
1830 City of Glasgow ..	2 9 9	3 4 6	4 8 3	1810 Sun	2 9 2	3 6 6	4 14 9
1830 Church of England	2 6 10	3 3 6	4 13 4	1714 Union	2 13 5	3 7 11	4 10 8
1830 Clerical, Medical,				1815 United Kingdom	2 8 9	3 3 4	4 10 7
&c.	2 10 4	3 3 8	4 7 3	1834 Universal	2 8 10	3 3 0	4 5 0
1830 Commercial	2 8 10	3 5 0	4 10 7	1825 University....	2 10 9	3 4 7	4 7 6
1830 Crown	2 10 4	3 4 7	4 11 1	1838 Victoria ..	2 9 2	3 6 4	4 11 10
1830 Eagle	2 9 10	3 4 4	4 12 4	1807 West of England	2 8 0	3 1 3	4 3 6
1830 Economic	2 4 3	2 19 9	4 8 0	1792 Westminster ..	2 13 4	3 7 11	4 10 10
1830 Edinburgh	2 7 7	3 2 4	4 9 0				
1830 Edinburgh & Glas-	2 8 10	3 1 3	4 9 1	Northampton 3 per			
gow				cent.			2 13 5
				Carlisle 3 per cent.			1 19 1
				Equitable Experi-			2 12 0
				ence do ..			1 18 6
				Gov. Males do ..			2 2 7
				Gov. Females do			1 17 8

* One-fifth, London Assurance and National; One-third, Benevolent and Union; One-half, Australasian, Guardian, Protestant Dissenters, Sun, and Victoria; Two-thirds, Caledonian, City of Glasgow, Crown, Edinburgh and Glasgow, English and Scottish Law, Equitable (New), European, Hope, Imperial, Licensed Victuallers, Manchester, National Endowment, National Loan Fund, North British, Rock, Scottish Union, and United Kingdom; Three-fourths, Active, Economic, Promoter, Protector, and Universal; Four-fifths, Alfred, British and Colonial, Church of England, Eagle, Edinburgh, Family Endowment, Law Life, Legal and General, Minerva, Palladium, Royal Naval and Military, and University; Five-sixths, Commercial;

* Some of these have adopted separate lower scales for temporary and non-participating assurances.

Nine-tenths, North of Scotland ; *Seventeen-eighteenths*, Provident ; *Whole free participation scale*, Aberdeen, British Empire, Freemasons, and London, Edinburgh, and Dublin, London Life, and Life Association of Scotland. But these proportions, it has to be observed, form a very uncertain view of the advantage to the assured, as the companies generally differ in their mode of estimating profits, expense of management, and in the benefits reserved for their shareholders. In this uncertainty, perhaps the safest guides are the statements which are published by some of the offices of the profits actually assigned to the parties assured.

Many of the offices in this class have lower scales, under which the assured remain independent of them, as in class first. In not a few also the rates of premium on the lives of females are rather less than on those of males.

The selection of an office is sometimes a matter of considerable difficulty; and can seldom indeed be fitly made by persons not conversant with life assurance business. The mutual assurance and proprietary systems have each their advocates. On behalf of the first, it is chiefly argued that the assured have the benefit of all the profit realized ; while the proprietary companies state that their arrangement has the advantage of simplicity, that the realization of profit by the assured under the former system is uncertain, and that it entails upon them the responsibility of partners for the losses of the society.* Each kind, however, has its advantages, according to the objects of the party wishing to be assured. For family purposes, and especially where the party is young, the mutual associations are generally preferred; while for temporary or "short assurances," and those connected with many kinds of trust and money transactions, a liberal proprietary company is commonly chosen : the mixed associations hold out the advantages of both methods. A proprietary company making no returns will be selected on a joint consideration of its respectability, rate of premium, and of the conditions annexed to its policy. In the case of a mixed office sharing profits, regard will besides be paid to the amount of their returns or *bonus*. In a mutual society, the rate of premium is by some deemed of minor importance, as the surplus is divided wholly among the assured, and the office may in so far be regarded as his savings bank ; but rates greatly in excess lead to a needless amplitude of funds,—a condition not very favourable to economical management.

In the division of the surplus premiums or bonuses, the methods followed by the offices seem to be fair, in so far as they make the chance of surplus the same for one member as for another, at least of those who enter at the same age : if there be any thing inequitable, it arises when the premiums, as is sometimes objected to those computed from the Northampton Table, are disproportioned at different ages, so that the surplus is differently levied upon different classes of members. But the high respectability of most or all of the offices using the Northampton Table has led to this alleged inequality being very generally disregarded.

Mode of Effecting Assurance.—The company delivers to the party proposing an assurance a printed form, which, where the assurance is on his own life, he fills up with his name and designation, the place and date of his birth, the sum to be assured, and the duration of the assurance, along with various particulars regarding his health, viz. : whether he has resided abroad, has had smallpox or cowpox, been affected with palsy, apoplexy, fits, convulsions, spitting of blood, consumption; or has been subject to gout, insanity, rupture, or to any other disease tending to shorten life. This is followed by a certificate or *declaration*, warranting the truth of these particulars, and declaring them to form the basis of the contract. Where the assurance is intended to be on another life than that of the proposer, the same particulars are furnished, and warranted, with a farther declaration that the proposer has an *interest* in the life of the other to the full amount to be assured thereon. In both cases, references are besides given to two friends of the party on whom the assurance is made. One of these must generally be the party's usual medical attendant, from whom a very minute declaration is sometimes required, not only on the above particulars regarding the party's health, but also as to his predisposition to disease, and his habits as to activity and temperance. When this is com-

* Every desirable security may be obtained on the mutual principle. The proprietary and mixed companies offer, it is true, the guaranty of a subscribed or paid up capital in addition to the premiums, but it has long been proved, that with proper tables and a fair amount of business at starting, this capital is unnecessary. The only advantage of capital to an office seems to lie in its enabling the directors justifiably to seek for investments on secondary securities, at a high rate of interest ; investments which a mutual society must avoid, and which even other offices, especially those on the mixed plan, should shun until a sum sufficient (with future premiums) to meet all claims is set apart in the best securities which the state of society offers.

sted, the party whose life is to be assured generally makes his appearance before committee of the directors of the company, or their medical officer, by whom other inquiries are made ; and the result is entered in the company's books accordingly. The declaration, certificates, and other papers, are then laid before the board ; and from these documents, and frequently information derived from other sources, their decision is formed, and communicated to the applicant. On payment

the premium a receipt is given, containing the number of the policy, which is then made out agreeably to the declaration, inspected by the board, signed by a certain number of directors, and delivered to the party interested.

If the party over whose life the assurance is made cannot appear before the directors, or any one appointed by them, a *fine* varying from 10s. to £1 per cent. on the sum assured is usually charged for non-attendance. A few offices likewise require a small *deposit* of 2s. 6d. per cent. on lodging the proposal ; others 5s. or 10s. per cent. as *entry-money*. In all cases, however, there is a *duty* to be paid to the government on the policy, which, when the sum is not above £50, is 2s. 6d. ; above £50 and not above £100, 5s. ; above £100 and under £500, £1 ; when £500 and under £1000, £2 ; £1000 and under £3000, £3 ; £3000 and under £5000, £4 ; £5000 and upwards, £5. There is thus always an addition to the first year's premium ; but in the policy the premium only is named, as on the regular payment of this sum its existence depends. The *time* allowed for payment of the medical premium varies in different offices from 15 days to 3 months after the time it is due ; but in most offices the forfeiture of the policy may be prevented by paying a fine of from 10s. to £1 per cent. on the sum assured, within a farther limited time, and giving a warranty that the individual is in good health.

The consideration for an ordinary assurance is, as already noticed, generally paid in equal annual premiums ; but many other plans are held out to suit the convenience of the assured. Thus, it may be paid—in half-yearly or quarterly instalments—according to ascending or descending scales of premiums, or by premiums payable during a limited number of years. Some offices also will accept of one-half of the annual premiums for the first five or seven years, leaving the other half, with interest at 5 per cent., to be paid afterwards, or deducted at death from the amount assured.

Exceptions are introduced into most policies declaratory of their being void in the following cases :—1. Death beyond the limits of Europe, or at sea, except in passing from one part of the kingdom to another, or to or from the Continent, within certain boundaries,—as betwixt Hamburg and Bordeaux. 2. Entering into naval or military service without the previous consent of the company. 3. Death by suicide. 4. Death by duelling ; and 5. Death by the hands of justice. The first two last, however, are not understood when the assurance is on another's life ; and in some offices, onerous assignees to policies opened by persons on their own lives may be similarly protected, to the extent of their *bona fide* interest.

Extra Risks are always the subject of special agreement. In this class are comprehended lives above 60, persons going beyond the limits of Europe, and persons whose lives are on the ground of health, or, from the nature of their employment, not assurable at the common rates of premium. Such risks are taken by many offices ; but the assurance of lives avowedly diseased is chiefly confined to the Asylum, the Globe, and a very few others.

The *Assignment of the Policy* is sanctioned by law ; and it may form a security for sums advanced, or become an object of sale. The holder of the policy in these cases pays the future premiums, and his advantage consists in possessing a policy at a less premium than he must have paid at the present age of the party on whose life the assurance was effected. As the probability of life is continually diminishing, the value of the policy will obviously depend upon the length of time it has endured. Thus, if a policy of £100, originally granted on a life of 25, is exposed for sale when the party attains the age of 60, the purchaser will, according to the joint table, have to pay only £2, 2s. 5d. annually during the existence of the policy ; whereas, if he had taken out one at the present age of the party, his premium would be £6, 6s. 6d. ; and for the excess of the latter above the former, namely, £4, 4s. 1d., a price is fixed. The value of a policy may also depend upon the future annual contributions being paid under a guarantee by the assigner, or upon a fund set apart by him ; or upon the premium having been paid in a gross sum when the policy was opened. In general, however, it may be observed that a policy must be most valuable to the party assured himself, and less so to others, according to their convenience of paying the premiums, and obtaining proper information respecting the party in whose life they are interested. On this account,

and perhaps for the still weightier reason that all who sink capital to be drawn back upon a contingency, stipulate for a much higher than common return of interest (independent of the chances of life), policies are sold at very disproportionate prices. Most assurance companies are willing to treat for a renunciation of the policy: but where it has been opened for family purposes, and the assured's circumstances become reduced, an endeavour is frequently made, particularly where the policy has endured for a considerable time, to retain it among his friends. Of late years, several offices have adopted the plan of granting loans on the security of their policies.

On the Expiry of the Life Assured the office requires production of certain documents,—such as the register of the burial of the deceased, and references to the medical persons and others who attended him in his last illness; and, if he opened the policy himself, the probate of his will, or, if it has been assigned, a copy of the assignment. The time when the sum assured is paid varies in different offices; but is commonly within three months after proof of the death. In this interval due investigation is made; and every thing having been found satisfactory, the claimant brings with him the policy, and a receipt for the sum, which is immediately paid to him. Where a claim is payable in the event of a person being alive at a certain time, his appearance before the directors, or a person appointed by them, is requisite, or sufficient proof must be given that he was alive at the time defined by the policy.

The following, extracted from the tables of the Pelican, a proprietary company, shows the rates payable at different periods of life for assurances under different circumstances:—

SINGLE LIVES.								SURVIVORSHIPS.							
TABLE of Annual Premiums required for an Assurance of £100 on a Single Life for one Year, seven Years, and the whole Term of Life.								Annual Premiums required during the Joint Lives of two Persons A and B, to secure £100 payable at the Death of A, provided B be then living.							
Age.	One Year.	Seven Years.	Whole Life.	Age.	One Year.	Seven Years.	Whole Life.	Age of A.	Age of B.	Annual Premium.	Age of A.	Age of B.	Annual Premium.		
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		
15	0 17 6	1 18 8	8 13 6	38	1 12 9	2 15 3	3 0 0	15	15	1 7 8	40	15	2 17 7		
16	0 17 11	1 19 1	8 14 3	39	1 13 2	2 16 5	3 1 9	20	20	1 6 8	40	20	2 16 4		
17	0 18 4	1 19 7	8 15 0	40	1 14 3	2 17 7	3 3 7	30	30	1 5 1	40	30	2 14 4		
18	0 18 9	1 20 0	8 15 10	41	1 15 4	2 18 10	3 5 6	40	40	1 3 6	40	40	2 11 3		
19	0 19 2	1 21 0	8 16 8	42	1 16 6	2 20 0	3 7 6	50	50	1 1 11	50	50	2 7 3		
20	0 19 7	1 21 1	8 17 7	43	1 17 9	2 21 7	3 9 7	60	60	1 0 4	60	60	2 2 1		
21	1 0 1	1 21 1	8 18 6	44	1 19 0	2 23 3	3 11 9	70	70	0 18 9	70	70	1 18 0		
22	1 0 7	1 21 2	8 19 5	45	2 0 4	2 24 8	3 14 1	80	80	0 17 0	80	80	1 14 6		
23	1 1 1	1 21 2	8 20 5	46	2 1 9	2 26 6	3 16 5	20	15	1 11 6	50	15	4 1 5		
24	1 1 7	1 21 3	8 21 5	47	2 3 3	2 28 8	3 18 11	20	20	1 10 8	20	20	4 0 1		
25	1 2 2	1 21 3	8 22 5	48	2 4 9	2 30 10	3 21 7	30	30	1 8 10	30	30	3 13 1		
26	1 2 9	1 21 4	8 23 6	49	2 6 6	2 32 12	3 24 4	40	40	1 6 11	40	40	3 14 13		
27	1 3 4	1 21 5	8 24 7	50	2 8 4	2 34 14	3 27 3	50	50	1 5 0	50	50	3 9 11		
28	1 3 11	1 21 6	8 25 9	51	2 10 3	2 36 16	3 30 4	60	60	1 3 1	60	60	3 2 7		
29	1 4 7	1 21 6	8 27 0	52	2 12 4	2 38 19	3 33 6	70	70	1 1 3	70	70	2 18 9		
30	1 5 1	1 21 7	8 28 3	53	2 14 6	2 41 1	3 36 11	80	80	0 19 2	80	80	2 0 3		
31	1 6 0	1 21 8	8 29 6	54	2 16 10	2 43 4	3 40 5	30	15	2 2 1	60	15	6 1 9		
32	1 6 9	1 21 9	8 30 10	55	2 19 4	2 45 7	3 44 2	20	20	2 1 2	50	20	5 0 1		
33	1 7 7	1 21 10	8 31 3	56	3 1 11	2 48 10	3 48 2	30	30	1 19 0	40	30	5 14 1		
34	1 8 5	1 21 11	8 32 8	57	3 4 9	2 51 13	3 52 4	40	40	1 16 5	40	40	5 14 10		
35	1 9 3	1 21 12	8 33 2	58	3 7 8	2 54 17	3 56 10	50	50	1 13 7	50	50	5 9 1		
36	1 10 2	1 21 13	8 34 9	59	3 10 11	2 57 21	3 60 6	60	60	1 10 9	60	60	5 1 6		
37	1 11 2	1 21 14	8 35 4	60	3 14 4	2 61 25	3 64 6	70	70	1 8 1	70	70	4 16 1		
								80	80	1 5 1	80	80	3 18 4		

LAW OF INSURANCE ON LIVES.

The principles set forth in relation to the other two great branches of the contract are to be considered as applicable to this branch, in so far as they are not inconsistent with the different circumstances of the transaction. If the policy be not on the life of the insurer himself, he must have some pecuniary interest in the life insured, in terms of 14 Geo. III. c. 48; and no farther sum can be recovered on a loss than to the extent of the interest. "Very few questions," says Mr Ellis, "have arisen upon the subject of interest, because the offices are never in the habit of taking that objection, unless they are under the necessity of resisting payment upon some other fair and proper ground, as fraudulent misrepresentation or concealment; and if they are driven to resist on such

, they then, in order to make their case the stronger, sometimes also object want of interest, when the policy is open to the objection" (123). Where of insurance in which there was no such interest as would found a claim was sold, an action to recover back the purchase-money was dismissed, as shown to be the practice of the office to pay in such cases (Bar-Morris, 1831. *Ellis*, 124). A creditor has an insurable interest in his debtor, the debt is paid in any manner, the interest ceases, as in the case of Mr Pitt's maker, who, with his other creditors, was paid from a parliamentary grant *1 v. Boldero*, 9 *East*. 72). [POLICY.] The holder of a note for money won has no insurable interest. Having to pay a fine, or as it is called in Scotland, as the condition of a lease on the death of any individual, is an insurable interest on his life.

Warranty and representation are of great importance in this species of insurance. It is usual for the party to sign a specific declaration regarding his age, and habits; and if this be part of the policy, its contents are of the nature of warranties. The warranty that the person "is in good health at the time of the policy" does not infer perfect freedom from disorder. The question is, whether the life is "a good one," which it is if there be nothing that positively diminishes the chance of the individual living as long as the average of other people. A slightly diseased, namely, by occasional rheumatism, may die of an increase of disorder; but the chances of his doing so are scarcely more than that a man in perfectly sound health may, within the same time, fall a victim to a deadly disorder. If there be a fixed consumption, however, or disease of the heart, the seeds of disorder are planted,—the subject is clearly a damaged one, and though it may hold out for some time, the chances are against it, and it is far from being worth the same price as an undamaged commodity. It is now the practice to require some specific answers to certain questions as to the party's health, namely, if he has had the smallpox, or has been inoculated? If he has had the gout? if he is ruptured? Undoubtedly, false answers to such questions will vitiate the contract. It is the practice to follow up with the question whether there be any disease tending to shorten life? And the answer must be given on the above principles. Where an insurance office demands no warranty or special information, it takes the risk of the life being a good one, subject to the exception of fraud. There may always be fraud in the concealment of material facts. It is held that the person insuring cannot be the judge of what is material, and that it will not avail him to prove that he did not think the circumstance material, and, on that account, did not communicate it; so that, whenever there is any thing in the position of the insured, whether as to health or habits, which distinguishes him from the generality of men, it is safe to omit stating it. "The contrary doctrine," says Mr Justice Bayley, "would lead to frequent suppression of information, and it would be extremely difficult to show that the party neglecting to give the information thought it material. But if it be held that all material facts must be disclosed, it will be the interest of the insured to be assured to make a full and fair disclosure of all the information within his reach" (*Lindenau v. Desborough*, *Ellis*, 114). If the person has been seriously ill recently before the insurance is effected, that circumstance ought to be stated, and reference should be made to the physician who attended him. A certificate is generally required from the usual medical attendant, and if, instead of the usual physician who has been recently attending, one who attended at a distant period is adduced, the policy will be vitiated. It is usual to apply for information to the friend, the truth of whose statements is material to the validity of the policy.

In Scotland, in a case where the answer of the private friend to the question "Can you give any and what information respecting his habits? whether he is sedentary? temperate or free?" was, "he takes moderate exercise, and is moderate in his living;" and that to the question "do you know any reason why an assurance on his life would be more than usually hazardous," was, "I know of none;"—the concealment of an excessive habit of opium-eating was held to be material (*Forbes & Co. agt. Ed. Life Assur. Co.*, 9th March, 1832, 10 *S. & D.* 451). The same rule applies to insurance on the life of another is in all respects in the same situation as that person would be in if insuring on his own life, in respect to concealment, warranty, and representation; and his ignorance of the circumstances does not protect him if he give false information, or conceal material facts.—(*Park*, 636-652. *all*, 770-784. *Ellis on Fire and Life Insurance*.)

INSURANCE (MARINE) is insurance against perils of the sea and enemy, including the chances of fire, piracy, and barratry. Its introduction is believed to be coeval with that extraordinary development of maritime and commercial

enterprise which distinguishes the 15th century. But a long period elapsed before its practice became general; nor was it until after the middle of last century that in this country it was subjected to clearly defined laws,—an advantage which was then conferred upon it mainly by an admirable series of decisions by Lord Mansfield, Chief-justice of the King's Bench between 1756 and 1788. It differs from fire and life insurance both in the mode of transacting the business and in the diversified nature of the risks against which security is sought. The great emporium of marine insurance is London, where it is effected chiefly through means of individual underwriters, who congregate at Lloyd's Subscription Rooms, in the Royal Exchange. Indeed, until 1824, with an exception in favour of two chartered associations, the Royal Exchange and London Assurance Companies, it was not lawful in England for any two or more individuals to combine together for taking upon themselves sea-risks; but in that year an act was passed which allowed any number of persons to associate themselves together for undertaking marine insurance; and many joint-stock companies have been since formed and put in action for that purpose, both in London and other ports, though nearly all the great adventures, and a large proportion of the other business, continue to be taken to individual underwriters at Lloyd's.

The establishment of Lloyd's may be regarded as the focus of the maritime commerce of the world. [LLOYD'S.] There is scarcely a seaport of any consequence in which the committee has not an agent, whose duty it is to survey all ships launched, and to continue from time to time to transmit all necessary information about them; also to give intelligence of all departures and arrivals, ships spoken with at sea, wrecks, accidents, and the state of the weather; likewise, in case of damage to goods insured, to examine and report their condition, and generally to watch over the interests of the underwriters. In this way that body of men are supplied with every information which it concerns them to possess; and as, besides all British ships, a large proportion of those of other states are registered in their books with every minute particular, they have seldom more hesitation in accepting insurance on a foreign vessel than on one of this country.

Merchants and shipowners sometimes transact their own business at Lloyd's, but more commonly insurances are effected through the medium of brokers, who are remunerated, not by the assured—their employers—but by the underwriters, with whom they have a current account; their regular allowance is 5 per cent. on the amount of the gross premium in each case, and, in addition, 12 per cent. upon the net amount of premiums paid by them at the end of the year, half-year, or other period, when the broker makes a settlement, after deducting all losses and averages recovered for the assured. As some compensation for the 12 per cent., which he foregoes in the case of loss, the broker charges the party assured 10s. per £100 upon the amount recovered. The underwriters seldom run a hazard to any large amount upon one ship; their principle of transacting business is to distribute their risks over as many vessels as they can, so as to lessen the proportionate probability of great loss; and hence few will subscribe more than £500 or £600 on one ship; indeed, the average may be reckoned nearer to £200; but the policy is handed round among the underwriters until the required amount is filled up; and thus, when an adequate premium is afforded, no difficulty is experienced in getting assurances to almost an unlimited extent.

Insurances of moderate amount are in general effected with greater facility and despatch with a company,—the risk being commonly accepted or rejected at once by their manager. These companies, as at Lloyd's, all allow 5 per cent. discount or brokerage on the premium; but their practice is not uniform in other respects. The following are the terms of the Marine Insurance Company of London:—"All parties to be allowed 5 per cent. brokerage and 10 per cent. discount for cash. Current credit accounts to be opened with the consent of a board of directors, the same to close on the 31st of December in each year, and the balance to be paid on or before the 5th of April following, when 12 per cent. discount will be allowed upon the balance, such discount to be forfeited if the balance be not then paid."

In some places there are clubs, or mutual insurance associations, in which no premium is paid, but each member is periodically called upon to defray a proportion of the losses sustained,—the rate of his contribution depending upon the value of the property hazarded by him. These clubs are usually confined to particular branches of trade, as the coal-trade, where the risks incurred by all the members are commonly equal in degree,—a condition essential to render the association equitable.

The rate of premium varies of course according to the quality of the ship, the

n of the year, and the nature of the voyage. It is not based, as in life assurance, upon any systematic arrangement of facts, but is deduced, as in fire insurance, merely from a loose general estimate of the risk. For an account of the duties payable, see the head POLICY.

effecting an insurance, merchants should take care that their policy covers not the full value of their property, but likewise the expenses of insurance and cry in case of loss or damage.

LAW OF MARINE INSURANCE.

rights.—Any individual, whether a British subject or an alien, may insure his interest in a vessel, provided he be not an alien enemy. It has been generally provided by temporary acts during war, that no foreign enemy's interest shall be insured in the United Kingdom, with penalties against underwriters contravening. Common law, however, no alien enemy can recover on a policy during the continuance of hostilities, whether it has been entered into before or after the declaration of war; nor can an action be maintained by any one on an insurance on the property of an alien enemy. A license to trade with this country granted to an alien enemy, does not remove his personal disability to sue in his own name, but incidentally legalizes an insurance on his goods shipped for the benefit of British subjects, so as to enable his agent here to sue upon it. No insurance can be recovered on, for a loss occasioned by British capture, as was decided where an insurance on a French vessel was made before the war in which she was captured, and action raised after the cessation of hostilities (*Gamba v. Le Mesurier*, 4. 407). It is held, indeed, that losses happening during the existence of hostilities between the respective countries of the insured and insurer, must be considered as excluded from the perils in the policy. It is said that British property may lawfully be insured against British capture, seizure, and detention, it is presumed that any loss so occasioned would be caused by mistake. An alien subject living under the protection and acting for the benefit of a foreign country is looked on as an alien enemy in respect of any insurable interest. Mere residence in a hostile territory, however, does not constitute such a disqualification. A neutral, though residing in a hostile territory, and in partnership with an enemy, may insure his share of the interest. The parties who, in this country, are entitled to carry on the business of marine insurers or underwriters, have been already described.

Subject: Interest.—The insured must have an interest in the subject. By 19 Geo. 3, for the purpose of suppressing wager-policies, it was enacted that no insurance "on any ship belonging to his majesty, or any of his subjects, or any goods, merchandises, or effects, &c." should be made, "interest or no interest, or without farther proof of interest than the policy, or by way of gaming or wagering, without benefit of salvage to the assurer;" and assurances in contravention of this act are null. There is an exception in favour of British privateers, on whom insurances may be made, interest or no interest, free of average, and without benefit of salvage to the insurer; and by § 3, effects coming from places belonging to the crown of Spain or Portugal are excepted. It has been decided that the statute does not extend to foreign property in foreign ships, and therefore a condition that the policy is to be deemed sufficient proof of interest, in case of loss, in such a case is binding, and renders the policy sufficient proof of interest (Thellusson v. Fletcher, 1 Doug. 315). In cases where the act requires an interest, if the person insured part with his interest, the insurance falls. An endorsement of a bill of lading to a creditor is held on the face of the transaction, to the effect of terminating an insurance; the parties, however, are entitled to show that their understanding of the transaction was different. An insurable interest does not require to be a direct right of property. Any valuable interest arising from the subject, unless specially excluded (as is the case with a seaman's wages) may be insured, *e. g.* the commission, or privileges, of the captain, and money expended by him for the use of the ship, expected profits, freight, interest in bottomry and respondentia bonds. An owner may even insure, without the head of freight, the benefit which he derives from carrying his own goods. If freight is insured, it must be shown, before recovery, that but for the loss the vessel would have earned her freight, or that she was in the course of earning it, by having her cargo on board. The wages of seamen are not insurable on grounds of public policy, it being considered necessary to exclude them from any insurance apart from the safety of the ship. Re-insurance, or insurance against the loss to which the underwriter may be liable, is prohibited by 19 Geo. II. c. 37,

unless in the case of the insurer becoming insolvent or bankrupt, or dying, in which case his assignees, executors, or administrators may re-insure, provided it be set forth on the policy that it is a re-insurance. A double insurance is not void, though made with the view of double satisfaction in case of loss, but the insured cannot recover on the policies collectively more than his loss. He can either sue on both rateably, or on one, and in the latter case, the underwriters who pay have relief against those in the other policy. As to the subject which forms the interest, "in general it may be laid down as a rule, that no insurance can be made on any species of goods and merchandises intended to be imported or exported, contrary to the laws of this kingdom, or those of its dependencies, or to the law of nations; and that if the intended commerce be contrary to any of these laws, an insurance made to protect it will be illegal and void" (*Marshall*, 52). When both parties are aware of the illegality,—as in other illegal pactions, neither party has an action against the other for performance of his covenant; and so, though he may have paid the premium, the insured cannot recover on a loss. By the act for consolidating the laws against smuggling, 3 & 4 Wm. IV. c. 53, § 46, there are penalties against the parties engaged in such insurances. [SMUGGLING.] It is no defence, however, in an action on a policy, that the subject-matter of the insurance has come into existence through an infringement of the revenue law of some other country. If a general insurance be effected on goods, part of which is of a nature to make the voyage illegal, and the ship and cargo liable to be seized in terms of the revenue laws, the policy is entirely vitiated; but, if no part of the cargo but that illegally conveyed is liable to forfeiture, the insurance will be good as to the remainder. Insurance on contraband of war is void, and so on any trade carried on in contravention of a British embargo. [CONTRABAND. EMBARGO.]

Risks or Perils.—Perils usually insured against are as follow:—

1st, Of the Seas.—The expression comprehends those injuries or losses which proceed directly from natural causes, and are not designedly done by the hand of man; it embraces injury from stress of weather, winds and waves, lightning, rocks, sandbanks, &c. A loss arising from the misconduct or ignorance of the master or crew is not considered as by a peril of the sea, nor is one from the internal condition of the vessel, as where it becomes worm or rat eaten. It is a peril of the sea when the vessel receives damage by taking the ground in a dry harbour, owing to the tide having left her, or when one ship is run down by another, or when loss is immediately caused by the convulsion of the elements, though remotely occasioned by some act of carelessness. Where a vessel is driven ashore by stress of weather, and there captured, it is not a peril of the sea, but of enemies. Where two of the crew were sent on shore to make fast a rope, and were impressed before they could do so, in consequence of which the ship went ashore nearly at high-water, where she grounded, and was much strained, and made a great deal of water before she could be got off—it was held a loss by peril of the sea.—(*Hodgson v. Malcolm*, 2 N. R. 336.)

2d, From Fire.—Whether occasioned by the negligence of the master or crew, by malicious design, or in furtherance of public policy,—as where a ship is burnt to prevent her from falling into the hands of an enemy. If goods are shipped in a damaged state, and internal combustion arise, the insurers of such goods are not liable.

3d, From Enemies.—The principal losses from this source are by capture. The underwriter becomes liable from the moment of capture, and is not entitled to wait for a formal alienation of the property by condemnation or otherwise; retaining, however, an equitable right in the case of recapture, to have his responsibility reduced to the extent of the actual loss occasioned, as by salvage, &c. The underwriter will not be relieved though he show that a capture was occasioned by connivance with the master. The only manner in which there can be a deduction from the full loss in the case of a captured vessel, is in the case of recapture: the ransoming captured vessels is prohibited under severe penalties (22 Geo. III. c. 25). Detention by embargo is one of the perils from enemies, and it is generally specified in the policy. [EMBARGO.] There can be no recovery on an insurance against British capture.

4th, Pirates, Rovers, and Thieves.—This includes all those acts of violence and fraud, which not being done by governments in the course of hostilities, resemble robbery and theft on shore. Where a ship loaded with corn was compelled by stress of weather to enter Ely harbour, where there was a scarcity of corn, and was forced by a mob, it was held a loss by pirates.—(*Marshall*, 511.)

5th Jettison, and 6th Barratry. See these heads, and AVERAGE.

These particulars are usually followed in the policy by the general definition

perils, losses or misfortunes, that have or shall come, to the hurt, detri-
 mage of the saids goods and merchandises, and ship, &c., or any part
 This general expression has become limited by practice and law to
 rptions of loss. The destruction of the ship through any principle of
 ay,—as by worms or rats, is not covered by it. Though loss occasioned
 be one of the risks specifically insured against, it would appear that
 ned where the voyage is abandoned *on account* of the risk of capture,
 ne under the general clause ; so it was found in a case where, it having
 ined that the port of destination of an insured vessel was shut up against
 , the ship proceeded elsewhere, and sold her cargo at a loss (Had-
 obinson, 3 *Bos. & Pul.* 388). Where a vessel is fired on by mistake
 ay, the loss is held to be covered by the general clause. There are
 excluded from the insurance by what is termed the common me-

[POLICY.] There are certain injuries to ship and goods which the
 must bear, in relation to the former, and indemnify as to the latter,
 iding insurance. If the ship was not seaworthy at the commencement
 re, they are liable for all loss, as likewise for loss or damage arising from

tion of the risk is a matter of importance. As to goods, if they are
 be loaded at a particular place, they will not be covered if loaded

Under the usual form of policy, the risk does not commence till
 are actually on board, “ and it may be laid down as a general rule,
 k on goods continues no longer than they are actually on board the
 ned in the policy, or in boats for the purpose of being landed; and that
 moved from on board and landed, or put on board another ship with-
 sent of the insurers, the contract is at an end, and the insurers are
 from all subsequent responsibility ” (*Marshall*, 249). But if the vessel
 on her voyage, and the goods be shifted on board another, to be
 their destination, the insurers continue liable ; so also if it be a condi-
 e goods are at a particular place to be transhipped into other vessels,
 ther vessels not appearing, they are transferred to a storeship. As to
 the insurance be *from* the port, the risk commences when the vessel
 und ; if *at* and from the port, it commences with her arrival at the port,
 there at the time, at the execution of the policy. In the former case,
 e vessel must have arrived seaworthy, or at all events in a state to
 and equipped for the voyage. If the insurance be on the ship “ in
 anner ” as that on the goods, and the latter do not attach, the former
 k. It is usually stipulated that the risk shall continue “ until she hath
 nchor 24 hours in good safety,” and when such is the case, a loss happen-
 e time is not insured against, though the *cause* existed before the vessel
 L. The underwriter is indeed in all cases relieved if the loss does not ac-
 place till after the period fixed for the termination of the risk, though
 which it is occasioned, and one which could not but occasion a loss, has
 efore—as where a vessel springs a leak, and is kept afloat by pumping.
 —The consideration on which the insurer undertakes to indemnify
 is so termed. In marine insurance there is this peculiarity, that there
 n the part of the underwriter, for the stipulated premium, after receipt
 nowledged in the policy. This practice was first employed to exclude
 n the ground of want of consideration in actions for loss : it afterwards
 onvenient arrangement for facilitating the transactions of this depart-
 mess. The merchant has no time, at the critical moment when he wishes to
 ake inquiry as to who will undertake the risk in the particular case ; while
 pitalists ready to incur such risks of any description, at a correspond-
 n. Between these two parties the insurance brokers drive their business,
 the underwriters merchants who wish to be insured, and for the mer-
 rwriters who will undertake the risks. To facilitate this arrangement,
 takes on himself the relations of debtor and creditor between the parties.
 n account, putting down all premiums to the underwriter’s credit, as
 eived, placing against them return premiums and losses, and settling
 with the underwriter. It was formerly held that the receipt did not
 lerwriter’s claim from the *insured*, but it was decided otherwise in 1808
 (ain, 1 *Comp.* 532). It leaves, however, the claim of the underwriter against
 , and that of the broker against the insured, open. The premium and
 counterparts of each other, and if the latter do not exist, the former can-
 ned. If through mistake or misinformation an insurance be accomplished

where there is no interest, or on an interest far below that nominally insured for, there will be a claim for return of the whole premium in the one case, and for a proportionable part in the other. If there are several policies negotiated to an extent far above the real interest, and without fraud,—as, in the case of loss each underwriter will have to pay his proportion, without regard to priority, so each will have a return of a proportionable part of the premium. Upon a wager policy the insured cannot recover the premium after the risk is run, though it would appear that he may be entitled to it if it is run; and “though there be nothing illegal in the contract, and the insured effect the insurance in the conviction that he had a good insurable interest at the time the risk is run, and the ship arrive safe, he cannot come upon the underwriters for a return of premium, on the ground that he had no legal title to her. But if a loss happen, in the case of a *bonâ fide* insurance, and the underwriters reject the claim of the insured on the ground of want of interest, they will not be allowed to retain the premium” (*Marshall*, 652). The premium is earned, and cannot be redemanded if the circumstances are such that at any time, had a loss happened, the underwriter would have been liable to the full amount insured for. Where the transaction is illegal, and the underwriter in consequence refuses payment of a loss, the law does not require the premium to be returned. In the case of material fraud on the part of the insurer, the contract is void, and the premium must be repaid. There is no return of premium where the contract is voided through the fraud of the insured or his agent, though this doctrine was formerly much insisted. Where the voyage is divisible into several distinct risks, and some of these have not been run, a corresponding portion of the premium is returnable. There can be no return of part of a premium where the risk is for a term which has begun to run. A premium, or part of it, may be returnable by stipulation on the policy.

Loss and Adjustment.—The loss in marine insurance is either total or partial. The former does not infer the total extinction of the matter insured, but if it be properly abandoned to the underwriters, on account of the extent of the loss, that loss is considered total. [ABANDONMENT.] Where the policy is valued, the amount of a total loss is fixed and settled, subject to modification if fraud be proved. [POUR.] Where the policy is not valued, the amount remains to be adjusted. “If the policy be an open one, it is an invariable rule to estimate a total loss, not by any supposed value which the goods might have been deemed worth, at the time of the loss, or for which they might have been sold had they reached the market for which they were destined, but according to the *prime cost*, that is, the invoice price, and all duties and expenses incurred till they are put on board, together with the premium of insurance. This is the only true, at least the only legal mode of estimating a loss, whether total or partial, on goods; and whether the goods shall have arrived at a good or a bad market is always immaterial. Neither is the difference of exchange to be at all regarded in the adjustment; for the underwriter does not insure against any loss arising from such causes.” (*Marshall*, 632.)

The ship is valued at the sum she is worth at the time of sailing, including expense of repairs, value of apparel, provisions, and stores, money advanced to the sailors, and all other expenses of outfit, together with the premium of insurance. A loss at first total may merge into a partial one; as where the ship is captured and recaptured. In the case of a partial loss on cargo, in an open policy, the amount of indemnity to be paid by the underwriters is calculated on the same principle as that above laid down for a total loss, viz. the cost of the goods—not the price they may bring. To ascertain this, the sum they would bring if they arrived uninjured at their destination is adopted, and the price they actually bring is deducted. The sum they have cost being then stated, a sum bearing to that the proportion which the actual proceeds bear to what would have been the proceeds were the goods undamaged, is found, and deducted from the cost-price—the difference is the sum to be paid. Thus, suppose the goods purchased at £100; that, if they had arrived undamaged they would have brought £150, but, being damaged, have only brought £50, then as 150 : 50 :: 100 to £33, 6s. 8d. That sum deducted from £100, viz. £66, 13s. 4d. is the sum to be paid by the underwriters. Suppose the same goods brought to a falling market, where if undamaged they would bring not more than £75, and that being damaged they bring but £25—the same result would follow. It thus happens that when the market is a good one, the merchant will lose by his insurance—if a bad one he will gain. The underwriter is not responsible for loss arising from the duties or charges to be paid on the goods at their arrival; and so the price which forms the datum for calculating the loss, is the gross and not the net price. The premium of insurance and commission are added

the cost-price. In a valued policy, the sum at which the goods are valued (if there be no fraud) should be taken instead of the cost-price; a comparison between the sum brought by the damaged goods and what they would have brought undamaged, being taken as the medium of calculation, as above stated. Where the goods are sold short of the port of destination, for behoof of the underwriters, the proper sum to be paid by them is the difference between the value (if on a valued policy), or the average price (if on an open policy), and the sum brought; in other words, they take the goods, and pay the original sum insured. Where partial loss is suffered on a ship which is repaired by the owner, the sum to be paid is the cost of repairing, with a deduction of one-third, in consideration of the value of the new materials.

The settling and ascertaining the amount of a loss, with the proportion of it which each underwriter has to pay, is termed "adjustment." Being indorsed on the policy, and signed by the underwriters, with a promise to pay within a given time (as it generally is, except where the liability is disputed *in toto*), it amounts to an admission of the claims of the insured as against them, and precludes them from calling on him for farther proof. It is not, however, conclusive against the underwriters, who, until payment, may plead any defence, going to the validity of the transaction, such as misrepresentation or breach of warranty, but the proof will lie with themselves, and they will have to make out a strong case.

Representation is the term technically applied to any material statement, either verbally or in writing, by the insured to the insurer, if it contain collateral circumstances on which the latter may be supposed to calculate the extent of the risk. *Warranty* is a condition, and unless it be fulfilled, the contract is void. *Representation* is only the ground on which the contract is entered on, and if it be false, the insurer can only be relieved by showing that he has been misled as to the nature of the risk he has insured against. A warranty appears on the face of the policy,—representation is on a separate writing, or is parole [WARRANTY]. The latter representation is the obligatory one, and if it be inconsistent with an earlier representation, will readily have the effect of neutralizing it. Thus, where a ship was represented as American on presenting the slip, but at the subscribing of the policy it was merely stated generally "that it was an insurance on goods in the *Harmon*," the ship was held not to have been represented as American (*Dawson v. Atty*, 7 *East*. 367). If there is no subsequent statement, however, a representation made at the time of signing the slip will rule. If there is a material misrepresentation, it is not necessary for releasing the underwriter that it be shown to be fraudulent. "A representation," says Lord Mansfield, "must be fair and true as well as that the insured knows; and if he represents facts without knowing the truth, he takes the risk upon himself." And so, where the insured represented the ship safe on the 11th, whereas she was lost on the 9th, this, though merely the result of his calculation, released the underwriter (*Macdowall v. Fraser*, 1 *Doug*. 260). A wilful misrepresentation on a point material to the risk voids the contract, and the insured will not recover though the loss arise from circumstances unconnected with the representation.

A particular form has for two centuries been in use, in which the majority of policies are effected in England, unless when there are peculiar conditions to be inserted. It will be found with its several clauses under the head POLICY. If the policy contain warranties on the part of the insured, these must turn out strictly true, otherwise the obligation of the underwriter ceases to be in operation from the moment when they become untrue [WARRANTY]. There are certain duties on the part of the insured deemed necessary for the security of the underwriter from fraud, which are tacit obligations created by the existence of the contract, such as that the vessel shall be seaworthy, and shall not deviate from her proper course. [SEAWORTHINESS. DEVIATION. ABANDONMENT.] (*Park on Insurances. Marshall on Insurance*.)

INTEREST is defined by economists to be the net profit of capital; but, in the commercial acceptation of the term, it may be more correctly described as the consideration agreed to be paid for the use of money. The sum on which the interest is reckoned is called the *Principal*, and the sum per cent. agreed on as interest, the *Rate*. The latter, viewed apart from legislative interference, is in the general case determined by, 1st, the average rate of profit derived from the employment of capital; 2d, the security afforded for the repayment of the principal; and, 3d, the duration & convertibility of the loan.

1. That the rate of interest allowed on borrowed capital must, in the general case, bear a proportional relation to the average rate of profit yielded by its employment

seems evident. Much will be given for the use of money when much of it ; but, on the other hand, no man will pay more for its use than the prospect of making by its investment. Hence, in newly settled countries the facilities for the advantageous employment of capital are great, interest is high, while, in older countries, where these facilities are comparatively less, interest is low. In the United States, Canada, and Australia, interest varies from 6 to 10 per cent. ; but in Britain and Holland it rarely exceeds 5 per cent.

2. It must also vary according to the risk attending the repayment. No person would lend on the personal security of an individual at the same rate as on mortgage over a land estate ; nor would a capitalist advance money to a nation engaged in war, or distracted by civil war, on terms so advantageous as to a state where the government is settled, the people industrious, contented, and civilized.

3. The duration or convertibility of the loan has also to be taken into account. When the money lent continues available at all times, there exists an inducement for the lender to prefer such an investment, even at a reduced rate of interest, as he thereby retains every chance of its more profitable employment at some future time. On the other hand, where the investment, however secure, requires the money to be locked up during a considerable time, the lender will naturally demand a higher rate of interest, as all favourable chances are precluded until the end of that time. So at present exchequer bills, and deposits in banks, yield from 3 to 4 per cent., while 4 to 5 per cent. can be obtained on mortgage, or on any other security, where the loan is to continue for a fixed time. This principle does not apply when the market rate of interest is unusually high, in which case a lender may then consider it of advantage to secure an investment at that high rate of interest.

Though by these principles, as adjusted by the natural competition of borrowers and lenders, the rate of interest is permanently regulated, yet in all mercantile communities there are a variety of other causes in operation which lead to temporary fluctuations. Thus overtrading, a stagnation of credit, or any other circumstance which leads to a large amount of money being withdrawn from the market, will produce for a time a rise of interest above the average rate ; as, on the other hand, a fall below this rate will be produced by the disengagement of capital by a stoppage in any of the usual channels of payments on account of the public debt (even slightly sometimes by the suspension of dividends), or by any other circumstance which leads to a large amount of capital being thrown on the market for investment. The state of the rate of interest is also influenced by the general feeling of insecurity which it engenders, as by the extra demand created for loans by government.

Besides these influences, a considerable effect has, in most countries, been produced by the *usury laws*, which have interfered to prevent a fair and free rate of interest, by imposing heavy penalties on all such persons as lend at more than a certain fixed rate. These laws originated in a misinterpretation of a text in the Jewish law (Deut. c. 23, v. 20), and in protecting the poor against tyrannical extortion ; but very little is now necessary for discovering that, however well adapted they may have been to the former state of society, the case is now widely altered,—money having become much more of a merchantable article than it was. In these times, such laws are not only seditiously to obstruct mutual accommodation upon terms justified by fair competition, but by a due consideration of the greater or less risk that may attend the intended application of any capital. They are not less unjust than the *usury laws* inasmuch as they fail to operate according to the principle of reciprocity, but, in fact, a direct infringement on the right of property to free disposal and protection, of whatever description such property may be : and they are always slow in eradicating.

The legal rate of interest, after successive reductions, was fixed in 1714 (12 Anne, c. 16) at 5 per cent. ; and in Ireland, in 1732, at 4 per cent. These rates, however, have been at various times considerably below the legal rate. In 1806, £5, 17s. per cent. was paid on a loan to government (as *usury laws* are not binding), and at various other periods during the same century the rate paid by government was above 5 per cent. Such being the interest on government securities, a much higher rate was exacted on that of private parties, and a variety of expedients were accordingly adopted for defeating the *usury laws*. Landed proprietors borrowed at extravagant rates on redeemable

while, by the mercantile classes, the law was evaded by collusive transactions in the funds, and by other less reputable devices, in which an extra per centage was naturally levied by the creditor as a guarantee against the risk, and a recompense for the odium attending a breach of the statute. It came at length to be seen and acknowledged that the usury laws produced and magnified the evils they were intended to remedy (*Commons' Report on Usury Laws*, 1818); and in 1833, a clause was introduced into the act renewing the charter of the Bank of England, by which a higher rate than 5 per cent. may be charged on bills not having more than 12 months to run; while, by later acts (7 & 8 Wm. IV. and 3 & 4 Vict. c. 83) this rate is, until 1st January 1843, extended to bills not having more than 12 months to run; all simple loans of sums above £10 are likewise exempt from the laws during the same period, provided they be not on landed or other real property. The act 3 & 4 Vict. c. 83 will doubtless be renewed, and perhaps extended; so that in as far as the mercantile community is concerned, the usury laws may now be considered at an end.

Fluctuations in the market rate of interest in this country rarely exceed 1 per cent. from about 2 to 3, or rather $3\frac{1}{2}$ per cent. on Exchequer bills and deposits in bank; from $3\frac{1}{2}$ to 4 per cent. on the first class of land securities; and from 4 to 5 per cent. on bills of exchange,—the medium rate being thus about $3\frac{1}{2}$ per cent. Money, like all other commodities, is found cheapest where it exists in greatest abundance, and hence the rates in the metropolis are commonly lower than in the provinces, though they are subject to greater fluctuations; the discount on the same kind of paper varying at different periods from about $2\frac{1}{2}$ to $5\frac{1}{2}$ per cent. The usual criterion for judging of the market rate at any particular time is the charge made by the banks for discounting a good bill of exchange; but in the higher commercial circles of London, the rate and premium on Exchequer bills are supposed to afford the best indication of the state of the money market; the price of consols, which is frequently referred to, is a much more imperfect guide, particularly of late

years. The average rate of interest, and its probable continuance, have of late been the subject of discussion, more especially in reference to Life Assurance Companies and other institutions, whose operations are based on the continuance of a fixed rate for a number of years. Mr Babbage and Mr Finlaison, founded on the price of stock for a lengthened period, have estimated the probable average rate in this country for a considerable time to come at 4 per cent. (*Treatise on Insurance*, p. 20, and *Par. Paper*, 1829, No. 284, p. 35); but, looking to the principles by which interest is adjusted, it is manifest that estimates founded upon such data are entitled to little confidence. The average rate of profit is the limit to which all oscillations in the market rate of interest constantly gravitates; and the tendency of profits is to fall in all countries as recourse is had to the cultivation of poorer soils, and industry becomes less productive, it follows that the tendency of interest is to fall likewise. Happily, this tendency in profits is checked at repeated intervals by improvements in machinery, discoveries in the science of agriculture, better combinations of labour and capital, and greater freedom of commerce; so that the present average rates will probably be maintained for a considerable number of years. The subject is, however, one of acknowledged difficulty; and meantime, Mr De Morgan recommends that the rate assumed by insurance offices should never exceed that at which the government can borrow. (*Essay on Probabilities*, p. 257.)

Interest is either *simple* where it is always calculated on the original principal, or *compound*, where the interest itself is periodically accumulated, or converted into principal. Simple interest is legally due in all cases in which it is stipulated for, unless where it comes within the now limited operation of the usury laws [*Usury*]; and where not stipulated for, the right may be established by usage. It is due on all bonds, bills, and promissory notes, from the time of payment. By 7 Wm. IV. c. 42, §§ 28, 29, it is provided that upon all debts or sums certain, payable at a specified time or otherwise, the jury, on the trial of any issue of fact, may allow interest to the creditor at a rate not exceeding the current rate from the time when the debts or sums certain were payable, if they be due by virtue of some written instrument at a fixed time, or if payable otherwise than from the time when a demand of payment has been made in writing, and notice that interest will be claimed from its date, until the term of payment; and it being also payable in all cases in which it is payable by common law. It is further provided, that the jury, on the trial of any issue or inquiry, may give judgment in the nature of interest, over and above the value of the goods at the

time of the conversion or seizure, in actions of trover or trespass *de bonis asportatis*, and over and above the money recoverable in all actions on policies of insurance. Where a writ of error has been sued out in any action personal, and judgment given for the defendant, interest is to be allowed by the Court of Error for such time as execution has been delayed.

This act does not extend to Scotland, but the practice there is similar. It is usual in Scotland for bankers' and land-stewards' accounts to be periodically settled, and the interest added to the principal. Compound interest is demandable in such cases; and indeed it is virtually charged in all cases of accounting where balances are periodically accumulated; it is also invariably charged in all calculations of annuities, assurances, and reversions, as for periods beyond one year, it is, in truth, the only method by which the value of money can be properly ascertained. But the law never considers compound interest as directly chargeable on an ordinary debt or loan; though in the generality of cases it would be equitable that this should be done, seeing, that as soon as a sum of money is payable, it matters little whether it be due under the name of principal or interest,—the use of it being of equal value to the owner.

Interest Calculations.—The simple interest of any sum for one year at 5 per cent. is obviously $\frac{1}{20}$ th of such sum (or one shilling for each pound), and the interest for one day $\frac{1}{365}$ th part of this $\frac{1}{20}$ th, or $\frac{1}{7300}$ th part of the principal; while this last, multiplied by any number, will evidently give the interest corresponding to the same number of days. Hence,—

I. To calculate interest at 5 per cent., multiply the principal by the number of days, and divide the product by 7300.

II. To calculate interest at any other rate, find what it comes to at 5 per cent., and take a corresponding proportion of the same for the rate required.

Ex. Required the interest on £1520, 16s. 8d. for 8 days at 4 per cent.

1520 16 8	or, by decimals	1520.833
8		8
73,00) 121,66 13 4 (1 13 4		73,00) 121,66 664 (1 666 = £1 13 4
Interest 5 per cent. £1 13 4		1 666
Deduct $\frac{1}{4}$ 0 6 8		333
Interest at 4 per cent. £1 6 8		1 333 = £1 6 8

Approximations are sometimes adopted in practice; thus, interest at 5 per cent. is calculated by taking one penny per pound per month.

Compound interest may be calculated in the same manner as simple, adding the interest to the principal at each successive period; but when the periods are numerous, recourse must be had to logarithms, or to tables in the manner pointed out in next article.

Simple Interest Tables.—Booth's 5 per cent., Stenhouse's 5 per cent., Dunn's (Decimal) 5 per cent., Marshall's 4 per cent., Pohlman's, &c.

INTEREST (COMPOUND) AND ANNUITIES. Under the head **ANNUITY** we have given a brief account of that kind of property when viewed merely as a subject of commerce. In the present article we propose to explain briefly the principles of compound interest and annuities, and to furnish popular rules and tables for the solution of the cases which most commonly occur in practice. In so doing, we shall first treat those cases which are founded upon the operation of compound interest alone, and next, those wherein the operation of compound interest is combined with the chances affecting the duration of human life.

I. COMPOUND INTEREST AND ANNUITIES CERTAIN.

The cases which occur under this head may, in a general point of view, be comprised in combinations of the five following quantities:—

The *Principal*, signifying either a principal sum put out at interest, the present value of a sum due at a future period, or of an annuity, or the sum which, being immediately invested, will be exactly sufficient with its accumulations to provide for the said sum due at a future period, or for the instalments of the annuity as they fall due. Under the latter signification it is sometimes called the number of years' purchase the annuity is worth.

The *Time*, or a certain number of years commencing from the present.

The *Rate*, or the ratio which the interest accruing in one year bears to the principal producing it. Thus $\frac{1}{20} = .05$ is the rate when interest is at 5 per cent., $\frac{1}{25} = .04$ when the rate is 4 per cent., the rate being thus, in all cases, equal to the simple interest of £1 for one year.

The *Annuity*, or the sum falling due at the expiry of each year.

The *Amount*, denoting either the amount of the principal improved at interest for the time, any capital due at a future period, which, by discount is reducible to such principal, or the amount of an annuity for the said time accumulated at interest.

From the relation subsisting betwixt these five quantities, we are enabled, provided any three are supplied as data, to obtain the remaining two. In practice, advantage is taken of this relation to form tables, in which the rate and the time are always given quantities, while a third is denoted by unity. By means of such tables we are enabled to solve, either directly or mediately, all the cases which occur without the aid of analysis, excepting those in which the time and rate are both among the unknown quantities. The tables introduced for that purpose at the end of this article are four in number;* and their construction may be explained as follows:—

TABLE I.—Principal sum of £1 accumulated, or amount of £1 in any number of years.

The interest of £1 for one year at 5 per cent. being .05, the sum of the principal and interest, at the close of the first year will be 1.05. This being the sum on which interest is payable during the next year, a proportional increase will take place at the close of the second year, or $1:1.05::1.05:(1.05)^2=1.1025$; for the third year, $1:1.05::(1.05)^2:(1.05)^3=1.157625$. In the same manner, this last amount improved at interest during the fourth year will be increased to $(1.05)^4=1.215506$; and so on for each following year, the amount at the end of any number of years being always determined by raising the number which expresses the amount at the end of the first year to the power of which the exponent is the number of years. These results are exhibited in the table, and the same course is followed for the other rates.

TABLE II.—Principal sum of £1 discounted, or present value of £1 due at the end of any number of years.

The present value of £1 to be received at the end of one year must be such a sum, as being improved at interest for one year will exactly amount to £1, and must evidently bear the same pro-

portion to £1 that £1 does to its amount in one year. Hence, at 5 per cent. $1.05:1::1:\frac{1}{1.05}=$

.952381, the present value of £1 to be received at the end of one year. In the same way, $1.05:1::\frac{1}{1.05}:\frac{1}{(1.05)^2}=.907029$, the present value of £1 to be received at the expiration of two

years. It will also be found that the present value of £1 due 3 years hence is $\frac{1}{(1.05)^3}=.863838$;

and the same process followed for the remaining years, and for the other rates, will produce the results exhibited in the table.

TABLE III.—Annuity of £1 accumulated, or amount of £1 per annum at the end of any number of years.

The first payment of an annuity being considered due at the end of the first year from the time of valuation, the second at the end of two years, and so on, it is obvious in considering the amount of an annuity for any given term of years, that, at the expiration of the term, the payment due will be £1 without interest; that due one year before will be £1 improved at interest for one year; that due two years before will be £1 improved at interest for two years, and so on until the last payment, which will be £1 improved at interest for a term one year less than the duration of the annuity. Hence Table III. may be readily obtained from Table I.; the number against any year in the former being just unity added to the sum of all those against the preceding years in the latter.

TABLE IV.—Annuity of £1 discounted, or present value of an annuity of £1 per annum for any number of years.

The present value of an annuity of £1 for any given term of years is obviously the sum of the present values of £1 due at the expiry of one year, of £1 due at the expiry of two years, and so on until the expiry of the term, which values are given in Table II. as already explained. The number against any year in Table IV. will thus be equal to the sum of the numbers against that year and all the preceding years in Table II., from which, therefore, it may be readily formed.

With these preliminary explanations of the tables we shall now proceed to give rules for the solution of the cases which most commonly occur in practice, employing for this purpose the decimal notation, the nature of which we have explained under the head DECIMAL FRACTIONS.

. PRINCIPAL SUMS ACCUMULATED OR DISCOUNTED.

Case 1. Principal, Rate, and Time given, to find the Amount.

Rule. Find from Table I. the amount of £1 at the rate and for the time given, which multiply by the given principal.

Ex. Required the amount of £1500 in 10 years, reckoning interest at 4 per cent. per annum.

$1.480244 \times 1500 = 2220.366$, or £2220, 7s. 4d.

Case 2. Amount, Rate, and Time given, to find the Principal.

Rule. Find from Table II. the present value

* We have not deemed it necessary to introduce tables to exhibit the annuities whose amounts and present values are respectively equivalent to unity, as the numbers in such tables would be merely the reciprocals of those shown in Tables III. and IV.; i. e. the quotients of unity divided by the numbers in the latter, and which accordingly can be readily made to supply their place by being used as divisors in those cases where the corresponding numbers in the former would be employed as multipliers, and *vice versa*.

of £1 at the rate and for the time given, which multiply by the amount.

Ex. Required the present value of £1087, 5s. 7d. payable at the end of 15 years, or, what is the same, the principal sum which will amount to £1087, 5s. 7d. in 15 years; interest 5 per cent.
 $481017 \times 1087.279 = £523.$

Case 3. Principal, Rate, and Amount given, to find the Time.

Rule. Divide the amount by the principal, and the quotient will be the amount of £1 at the given rate; which look for in Table I. under the same rate, and contiguous to the said amount will be found the time required.

Ex. 1. In what time will £1000 amount to £2813, 17s. 3d. at 3 per cent.?

Here, $2813.862 \div 1000 = 2.813862$; which, in Table I. under 3 per cent., is found contiguous to 35 years.

When the exact quotient is not found in the table, take the difference between the next highest and next lowest numbers, and also betwixt the quotient and the number nearest to it, and the former will bear to the latter the proportion which one year, or 365 days, will bear to the number of days to be added to or deducted from the years found contiguous to such nearest number, according as it is less or greater than the exact quotient, in order to make up the time required.

Ex. 2. In what time will £100 amount to £265, 12s. 5d. at 5 per cent.?

Here, $265.6208 \div 100 = 2.656208$. By Table I. the amount of £1 in 20 years is 2.653298, and in 21 years, 2.785963; difference .132665. But 2.656208 exceeds 2.653298 by .00291 only; hence, as .132665 : 365 :: .00291 : 8, the time required is 20 years and 8 days.

Case 4. Principal, Amount, and Time given, to find the Rate.

Rule. Divide the amount by the principal, and the quotient will be the amount of £1 in the given time, which quotient will be found contiguous to the said time in Table I. under the rate required.

Ex. 1. At what rate per cent. per annum will £400 amount to £569, 6s. 6d. in 9 years?

$569.435 \div 400 = 1.42331$; which, in Table I., is found contiguous to 9 years, and under 4 per cent.

When the exact quotient is not found in the table, an approximation may be made to the rate in a manner similar to that adopted in regard to the time in Case 3.*

Ex. 2. At what rate per cent. per annum will £100 amount to £179, 9s. 4d. in 17 years?

Here, $179.467 \div 100 = 1.79467$. By Table I. the amount of £1 in 17 years, is at 3 per cent., 1.65284, and at 4 per cent., 1.94790; difference, .29506. Hence, as 1.79467 exceeds 1.65284 by .14183, we have .29506 : 1 per cent. (the difference between 3 and 4 per cent.) :: .14183 : .48069; and the rate required is 3.48069, or about 3½ per cent.

II. TERMINABLE ANNUITIES.

Case 5. Annuity, Rate, and Time given, to find the Amount.

Rule. Find in Table III. the amount of £1 per annum, at the rate and for the time given, which multiply by the annuity.

Ex. Required the amount of an annuity of £50 for 21 years, reckoning interest at 5 per cent. per annum.

$35.71925 \times 50 = 1785.9625$, or £1785, 19s. 3d.

Case 6. Annuity, Rate, and Time given, to find the Principal or Present Value.

Rule. Find in Table IV. the present value of £1 per annum, at the rate and for the time given, which multiply by the annuity.

Ex. Required the present value of an annuity of £1000 for 20 years at the rate of five per cent. per annum.

$12.46221 \times 1000 = 12462.21$, or £12,462, 4s. 2d.

Case 7. Principal, Rate, and Time given, to find the annuity.

Rule. Find in Table IV. the present value of an annuity of £1 at the rate and for the time given, and divide the given principal thereby; the quotient will be the annuity required.

Ex. A gentleman is willing to sink £523 for an annuity to be paid yearly for 15 years. What annuity ought he to receive, reckoning interest at 5 per cent. per annum?

$523 \div 10.3796 = 50.387$, or £50, 7s. 9d.

If the question had been, what annuity to continue 15 years will pay off a debt of £523, computing interest at 5 per cent., the answer would have been the same.

Case 8. Principal or Present Value, Annuity, and Rate given, to find the Time.

Rule. Divide the principal by the annuity, and the quotient will be the present value of an annuity of £1 at the given rate; which quotient will be found in Table IV., under that rate and contiguous to the time required.

Ex. A sum of £523 is given for an annuity of £50, 7s. 9d., interest at 5 per cent. per annum. Required the duration of the annuity.

$523 \div 50.387 = 10.3796$; which, under 5 per cent. in Table IV., is found contiguous to 15 years.

If the question had been, In what time will an annuity of £50, 7s. 9d. pay off a debt of £523, computing interest at 5 per cent. per annum, the answer would have been the same.

Case 9. Principal or Present Value, Annuity, and Time given, to find the Rate.

Rule. Divide the principal by the annuity, and the quotient will be the present value of an annuity of £1 for the given time; which quotient will be found contiguous to the said time in Table IV., under the rate required.

Ex. An annuity of £100 for 15 years is sold for £1037, 19s. 4d., required the rate of interest per annum allowed to the purchaser.

$1037.9666 \div 100 = 10.37966$; which in Table IV., contiguous to 15 years, is found under 5 per cent.

Case 10. Annuity, Rate, and Amount given, to find the Time.

Rule. Divide the amount by the annuity, and the quotient will be the amount of £1 per annum at the given rate; which will be found in Table III. under that rate, and contiguous to the time required.

Ex. In what time will an annuity of £30, 7s. 9d. amount to £1087, 5s. 7d. at 5 per cent. per annum?

$1087.2794 \div 30.3870 = 21.5785$; which, in Table III., is found under the said rate, and contiguous to 15 years.

Case 11. Annuity, Time, and Amount given, to find the Rate.

Rule. Divide the amount by the annuity, and the quotient will be the amount of £1 per annum for the given time; which quotient will be found in Table III. contiguous to the said time, and under the rate required.

Ex. At what rate per cent. per annum will an annuity of £50, 7s. 9d. amount to £1087, 5s. 7d. in 15 years?

$1087.2794 \div 30.3870 = 21.5785$; which is found in Table III. contiguous to 15 years, and under 5 per cent.

* These methods of approximating to the time and the rate are of general application to the succeeding Cases.

Case 12. Amount, Rate, and Time given, to find the Annuity.

Rule. Find in Table III., under the rate, the amount of an annuity of £1, in the given time; divide the given amount thereby, and the quotient will be the annuity required.

Ex. Required, the annuity which will amount in 15 years to £1087, 5s. 7d., at 5 per cent. per annum.
 $1087.2785 \div 21.5785 = 50.387$ or £50, 7s. 9d.

III. PERPETUAL ANNUITIES.

When an annuity continues payable without termination, it is called a perpetual annuity, or perpetuity. Of the five quantities considered under the last head, two, namely, the amount and the time, fall necessarily to be discarded, as in perpetual annuities they become infinite, and consequently unassignable. The three quantities remaining to be noticed are, 1. The annuity; 2. The rate of interest; and 3. The present value of the annuity, or the principal, which, being immediately laid out, will yield annually and perpetually a sum equal to the annuity.

The simple interest of any sum for a year being what may be produced annually by that sum, without increasing or diminishing it, must be evidently equal to the perpetual annuity of which such sum will be the present value. And as while the rate continues the same the annual interests produced by any two sums are to each other as the principals which produced them, it follows that at 5 per cent. $5 : 1 :: 100 : 100 \div 5 = 20$; therefore, when the rate is 5 per cent., the value of the perpetual annuity is 20 years' purchase. In the same manner, when interest is at 4 per cent., $4 : 1 :: 100 : 100 \div 4 = 25$; and the perpetual annuity is worth 25 years' purchase. And it follows, that in every case the value of a perpetual annuity may be found by dividing any sum by its interest for one year. This being premised, the solution of the three following cases becomes nearly self-evident.

Case 13. Annuity and Rate given, to find the Principal or Present Value.

Rule. Divide the annuity by the rate, and the quotient will be the principal or present value required.

Ex. Required the value of an estate of which the yearly rent is £1500; reckoning interest at 3 per cent. per annum.

$$1500 \div .03 = £50,000.$$

Case 14. Principal or Present Value and Rate given, to find the Annuity.

Rule. Multiply the present value by the rate, and the product will be the annuity.

Ex. A gentleman purchases an estate for £14,000; at what yearly rent must he let it in order to have 4 per cent. per annum upon the price?

$$14000 \times .04 = £560.$$

Case 15. Principal or Present Value and Annuity given, to find the Rate.

Rule. Divide the annuity by the present value.

Ex. An estate which cost £5000 is let for £150 per annum: what rate of interest has the purchaser on the price.

$$150 \div 5000 = .03, \text{ or } 3 \text{ per cent.}$$

When, as is assumed throughout the present article, the interest is convertible into principal at the same terms as the annuity is payable, no difference arises in the valuation of perpetual annuities from the circumstance of the instalments being payable twice a year, as the annuity divided by the rate of interest for one year must always produce the same quotient as half the annuity divided by half the annual rate of interest.

IV. DEFERRED OR REVERSIONARY ANNUITIES.

An annuity is said to be deferred when it is not entered upon immediately, but at the expiration of a certain time. Deferred annuities may be either terminable or perpetual. The chief cases are the following:—

1. Deferred Terminable Annuities.

Case 16. Annuity, Rate, Time deferred, and Time of payment given, to find the Principal or Present Value.

Rule. Find in Table IV., under the given rate, the present value of £1 per annum, first for the time deferred, and then for the time deferred and time of payment added together; subtract the former from the latter; then multiply the remainder by the given annuity, and the product is the principal required.

Ex. What sum should now be given for the reversion of a lease or annuity of £35 per annum, for 14 years after the next 7 years, in order that the purchaser may make 5 per cent. per annum of his money.

$$12.82115 - 5.78637 = 7.03478, \text{ which, multiplied by } 35, \text{ produces } £246, 4s. 4d.$$

Case 17. Principal, Rate, Time deferred, and Time of payment given, to find the Annuity.

Rule. Find by Case 1 what the principal will amount to in the time deferred: then find by Case 7 what annuity that amount will purchase.

Ex. If the reversion of an estate for 14 years after the next 7 years cost £246, 4s. 4d., what rent ought it to produce in order that the purchaser may make 5 per cent. per annum of his money?

By Case 1 £246.216 amounts in 7 years, at 5 per cent., to £346.452; equivalent by Case 7 to a rent for 14 years of £35.

Case 18. Principal, Annuity, Rate, and Time deferred given, to find the Term of Payment.

Rule. Find by Case 1 the amount of the principal at the given rate, at the expiry of the time deferred; then divide this amount by the given annuity, and the quotient will be the value of an annuity of £1 for the time of payment; which last will be found as in Case 8.

Ex. A debt of £816, 18s. 9d. is proposed to be paid off by assigning an annuity of £175 per annum, deferred for 9 years; how many years must the creditor enjoy such annuity in order to have his debt paid, with interest, at the rate of 6 per cent. per annum?

816.937 will, at 6 per cent., amount, at the end of 9 years, to 1380.198; and $1380.198 \div 175 = 7.886$; which in Table IV., under 6 per cent., will be found contiguous to 11 years.

2. Deferred Perpetual Annuities.

Case 19. Annuity, Time deferred, and Rate given, to find the Present Value.

Rule. The excess of the present value of a perpetual annuity of £1 at the given rate (Case 13), above the present value of an annuity of £1 at the same rate, for the time deferred (Case 6), gives the present value of the reversion of a perpetual annuity of £1 after the time deferred; and this, multiplied by the given annuity, will produce the principal required.

Ex. What sum ought to be paid for the reversion, after 40 years, of an estate in perpetuity, of which the yearly rent is £70, reckoning interest at 4 per cent. per annum.

$$25 - 19.71277 = 5.28723; \text{ which, multiplied by } 70, \text{ gives } £370, 10s. 11d.$$

V. RENEWAL OF LEASES.

Leaseholds and various other descriptions of property, when their annual income is susceptible of ascertainment, or of being reduced to a valuation, may be assimilated in all respects to annuities. In England, many societies, corporations, and colleges grant their leases for certain periods, the most usual of which are for 10, 20, 31, and 40 years; and it is customary for them to renew any number of years lapsed in such leases, on payment of a sum, as *fine*, which is agreed upon by the parties, the yearly rent or quit-rent remaining the same.

Case 20. Required, the Fine payable for renewing any number of Years in a Lease.

Rule. From the present value of an annuity to continue from the present time until the expiration of the renewed term, subtract the present value of an annuity to expire with the original term of the lease.

Ex. Thirty years having expired in a lease for 40 years, required the fine for renewing 10 years of the same, supposing the yearly rental £60, and the rate of interest 5 per cent.

By Table IV. the value of £1 per annum for 20 years, the number until the expiration of the renewed term, is 12.4622, and for 10 years, the unexpired time, it is 7.7217; and $12.4622 - 7.7217 = 4.7405$; which last, multiplied by 60, gives 284.430, or £284, 8s. 7d.

VI. PRINCIPAL SUMS INCREASED YEARLY BY A CONSTANT QUANTITY.

Case 21. Principal, Rate, Time, and Yearly Increase given, to find the Amount.

Rule. Add the amount of the principal accumulated, at the rate and for the time given (Case 1), to the amount of the yearly increase accumulated in the same way (Case 5), and the sum will be the total amount required.

Case 22. Principal, Rate, Time, and Amount given, to find the Yearly Increase.

Rule. From the given amount subtract the amount of the principal at the rate and for the time given (Case 1), and the remainder will be the amount of the yearly increase for the given

time; then divide this latter sum by the amount of an annuity of £1 for the given time as shown in Table III., and the quotient will be the yearly increase required.

VII. PRINCIPAL SUMS DIMINISHED YEARLY BY A CONSTANT QUANTITY.

Case 23. Principal, Rate, Time, and Yearly Decrease given, required the Amount which will remain unextinguished at the end of the given Time.

Rule. From the amount of the principal, corresponding to the given rate and time (Case 1), subtract the amount of the yearly decrease or annuity accumulated in the same manner (Case 5), and the remainder will be the unextinguished amount required.

Case 24. Principal, Rate, Time, and Amount unextinguished at the end of the Time given, required the Yearly Decrease.

Rule. From the amount of the principal, at the rate and for the time given (Case 1), subtract the amount unextinguished, and the remainder will be the amount, corresponding to the termly decrease; which latter being divided by the amount of an annuity of £1 at the end of the given number of years, as shown in Table III., will give the termly decrease required.

N. B. The ordinary questions in relation to *Sinking Funds* may be solved by the two preceding Cases, and Cases 7 and 8.*

* The preceding rules and the accompanying tables furnish the means of solving the cases which most commonly occur in practice; but as computations must occasionally be made, not only at other rates than 3, 4, 5, and 6 per cent. per annum,—those to which our tables are confined,—but likewise upon the supposition of the interest, as well as the annuity, being payable half-yearly, or at other terms, we here subjoin formulæ which will enable any one acquainted with the elements of analysis to solve, with the aid of a table of logarithms, nearly all cases which can present themselves, except, as afterwards explained, those where the rate is the quantity sought.

Let p denote the *principal* or *present value*, and m the *amount*, in the sense in which those terms are used on page 406. Also let a signify the *annuity*, or one of the equal sums successively payable at the expiration of equidistant periods, whether yearly or half-yearly, &c.; n the *number* of those equidistant *periods of time*; and r the *rate*, or ratio of the interest in one period to the principal, and which is equal in all cases to the interest of £1 for one period of time.

1. Principal Sums.

$$m = p(1 + r)^n$$

2. Terminable Annuities.

$$m = a \frac{(1 + r)^n - 1}{r}$$

$$p = a \frac{(1 + r)^n - 1}{r(1 + r)^n}$$

3. Perpetual Annuities.

$$p = \frac{a}{r}$$

4. Deferred Annuities.

Let d signify the deferred time, or the number of periods which elapse before the annuity is entered upon; n the number of periods during which it is paid; and the other symbols as before.

Deferred Terminable Annuities.

$$p = a \frac{(1 + r)^n - 1}{r(1 + r)^d + n}$$

Deferred Perpetuities.

$$p = \frac{a}{r(1 + r)^d}$$

5. Principal Sums increased or diminished at each equal Interval of Time by a constant Quantity.

Let a denote this quantity, the other symbols being as at first.

When Principal increased.

$$m = p(1 + r)^n + a \frac{(1 + r)^n - 1}{r}$$

When Principal diminished.

$$m = p(1 + r)^n - a \frac{(1 + r)^n - 1}{r}$$

EXTENSIONS OF THE PRECEDING FORMULÆ.

Hitherto we have supposed the annuity and interest to be due at the same periods; but as these conditions have no necessary relation to each other, we shall now exhibit those alterations of the formulæ which take place when the interest is convertible into principal at shorter periods than those at which the annuity is payable, and *vice versa*.

Here let r denote the rate, or interest of £1 for one year; a the annuity nominally payable at the end of each year; n the number of years; and m the amount, and p the principal or present value as before; these symbols all bearing now the significations attached to them in the text on page 406. Also let i denote the number of equal intervals in each year in which the interest is convertible into principal; and s the number of equal instalments of the annuity in each year.

CASE I. When the interest is convertible into principal a certain number of times in each interval between the instalments of the annuity;

$\frac{i}{s}$ being hence a whole number.

Terminable Annuities.

$$m = a \times \frac{\left(1 + \frac{r}{i}\right)^{in} - 1}{\left(1 + \frac{r}{i}\right)^{\frac{i}{s}} - 1}$$

II. ANNUITIES ON LIVES.

Under this head may be classed not only annuities on lives, properly so called, but any beneficial interest which terminates with the lives of any one or more persons, including salaries, and all that in law comes under the denomination of *estate*. It comprehends, likewise, *Reversions*, or the interest which the next person or persons have in any estate after the death of the present; and *Assurances*, in which the question is, what annuity must A pay to B during his life, in order that he may pay a given sum to A's representatives at his death.

Law of Mortality.—The basis of all questions having reference to the failure or continuance of life must obviously be the law of human mortality. Tables of mortality are those which exhibit this law through the whole extent of life, by showing how many persons out of a certain number, as 10,000 born alive, die in each year, and consequently how many complete each year of their age. The first table of this kind was constructed by Dr Hawley, from observations at Breslau in 1693, and published in 1693. Similar tables were afterwards published both in England and on the Continent, of which there may be noticed Kerseboom's, in 1738, from Registers of State Annuity-takers in Holland; Thomas Simpson's, founded on the London bills of mortality; De Parcieux's in 1746, from lists of annuities in the French tontines of 1689 and 1696; Dupre de St Maur's in 1749, from French parish registers. In 1769, Dr Price published his work on *Reversionary Payments*, in which were given tables constructed from observations in England, Norwich, and Northampton. In the 4th edition of Dr Price's work (1783) the Northampton Table was extended and improved: at the same time various other tables were furnished; in particular the Chester Table, lately republished in a new form by the Society for the Diffusion of Useful Knowledge in their work *Tables of Mortality*; and a table for the kingdom of Sweden, in which the sexes were distinguished, and the law of mortality determined for the bulk of the people. In 1808 Mr Milne, the eminent actuary of the Sun Office, published his treatise on *Valuation of Annuities and Assurances*, in which were given new tables deduced from the Swedish registers, and from observations at Carlisle and Montpellier. Since then, Mr Davies and Mr Babbage have put forth tables deduced from the experience of the Equitable Assurance Society; and the Parliamentary Reports of the Friendly Societies in 1825 and 1827, and the return made to the Treasury in 1835 by Mr Finlaison, the government actuary, contains a variety of information respecting the rate of mortality among the nominees of the government tontines and annuities. Lastly, Mr Ansell, in his work (1835) on *Friendly Societies*, has, from an extensive collection of returns made to him, deduced the law of mortality which generally prevails among the members of these institutions. Of the tables noticed, De Parcieux's, the corrected Chester Table, the Swedish Table of 1746, and the table founded on the experience of the Equitable Society, are of high authority; but in practical importance they are inferior to the Northampton, Carlisle, and Government Tables, which, from their serving as the

$$p = \frac{a}{s} \times \frac{1 - \left(1 + \frac{r}{i}\right)^{-in}}{\left(1 + \frac{r}{i}\right)^{\frac{i}{s}} - 1}$$

Perpetual Annuities.

$$p = \frac{\frac{a}{s}}{\left(1 + \frac{r}{i}\right)^{\frac{i}{s}} - 1}$$

L. When the instalments of the annuity are payable a certain number of times in each year, between the conversion of interest into $\frac{s}{i}$ being hence a whole number.

Terminable Annuities.

$$\frac{1}{r} + \frac{\left(\frac{s}{i} - 1\right)}{\frac{r}{i}} \left\{ \left(1 + \frac{r}{i}\right)^{in} - 1 \right\}$$

$$\frac{1}{r} + \frac{\left(\frac{s}{i} - 1\right)}{\frac{r}{i}} \left\{ 1 - \left(1 + \frac{r}{i}\right)^{-in} \right\}$$

Perpetual Annuities.

$$p = a \left(\frac{1}{r} + \frac{\frac{s}{i} - 1}{\frac{r}{i}} \right)$$

Formulae for deferred annuities, affected by similar conditions, may be readily obtained from the preceding, by deducting an annuity for the period deferred from one for the period deferred and in possession.

Demonstrations of all these formulæ will be found in the "Treatise on the Valuation of Annuities and Assurances," by Mr Milne, and the "Doctrine of Compound Interest," by Mr Francis Corbax. We have deemed it unnecessary to give more than one formula for each class of cases, as the others may be easily deduced from the given equation, by transposition, except in the case where the *rate* is the quantity sought. In this case the formula becomes so exceedingly complex, that recourse is generally had to approximate methods from tables in the manner explained in the text. The tables best adapted for this purpose are those appended to Mr Corbax's work, where the values are exhibited for each quarter per cent., from 3 to 6 per cent., on the several suppositions of interest being improvable yearly, half-yearly, and quarterly.

basis of almost all the annuity and assurance business in this country, are deserving of particular attention.

The *Northampton Tables*, formed by Dr Price from the registers of mortality kept at Northampton for 46 years from 1735 to 1780, were long the only ones in use, but they are now in much less repute. The observations embrace a considerable number of deaths, but no enumerations of the people were made to show how far the population was increasing, decreasing, or stationary (without which Mr Milne has proved that no correct tables of mortality can be constructed), while, on the other hand, no fixed rule appears to have been followed in interpolating the numbers dying annually from those given for decennial periods by the registers. In the report of the House of Commons on Friendly Societies in 1827, it is stated, upon the evidence of several of the most distinguished actuaries in the kingdom, "that these tables were originally formed in a degree upon hypothetical data," that "in truth there is not even a *prima facie* case in their favour," and that "the evidence appears to your committee to be strong and decisive in favour of the use of tables which give an expectation of life higher than the Northampton." Nevertheless, the Northampton Tables continue to be of high commercial importance, as they form the basis of the calculations of nearly all the life assurance societies instituted prior to 1815, and of many of those established subsequently. It may also be observed that the low value given by the Northampton Tables applies chiefly to ages under 60. Above 60, they are represented by that table nearly if not quite as good as by many other observations.

The *Carlisle Tables*, formed by Mr Milne from observations made by Dr Heysham in two parishes in Carlisle, from 1779 to 1787, give a higher expectation of life than the Northampton Tables. From the description of them, it appears that classified enumerations of the population were made at the commencement and termination of the observations, while the deaths in the intervening period were carefully recorded according to a similar classification; and that the number of persons living in the parishes at the end of the observations was 8677, the number who died in the 9 years, 1840; thus making the number the observations were made upon 10,517, exclusive of those who emigrated. Owing to the accurate construction of these tables, they have deservedly attained a very high celebrity. The Commons' report already alluded to describes them as "more complete than any which had previously existed in England; and the tables are, therefore, strongly recommended." It has been objected that the number of deaths, 1840, is too small to admit of subdivision; but the confirmation which the tables have derived from a comparison with other tables of reputation, has led practical men to disregard this circumstance, except for extreme old age, where it appears to have led to some incongruities. Mr Milne also considers them objectionable for ages below 10, in consequence of the introduction of vaccination since the observations were made. They are nevertheless supposed to contain at this time the best information we possess both on old and young lives belonging to the middle and higher classes. Since the publication of the Carlisle tables in 1815, they have, with certain modifications, been adopted by several assurance companies of the highest character, such as the Sun and Alliance, and have otherwise been the basis of very extensive calculations of value.

The *Government Annuity Tables* were prepared by Mr Finlaison, the actuary of the National Debt Office, betwixt 1825 and 1829, from observations of the mortality among the nominees of the tontines and other annuities granted by government. Owing to these nominees having been selected individuals, they give rather a higher expectation of life than the Carlisle tables. They are chiefly remarkable, however, for their distinguishing the sexes, and for the much higher value which they give to female than to male lives. The greater duration of female lives had been previously shown by the Chester, Swedish, and other tables; but Mr Finlaison's tables give the value of female lives so much higher than the others, that it is difficult to avoid the conclusion that some peculiar reason has existed for this disproportion. They now form the basis of the value of the government life annuities.

Probabilities and Expectation of Life, &c.—These, in so far as necessary for the purposes of the present article, may be readily obtained from tables of mortality by the following rules in the doctrine of probabilities:—

1. The probability of any event happening is measured by a fraction, whose numerator is the number of ways in which it can happen, and whose denominator is the number of ways in which it can either happen or fail. Thus, if there be 3 chances for the happening of an event, and 1 chance for its not happening, then will the probability of the event happening be measured by the fraction $\frac{3}{4}$.

2. The probability of the happening of several events that are independent of each other is equal to the product of the probabilities of the happening of each event considered separately. Thus, if the probability of the happening of 2 independent events be $\frac{1}{2}$ and $\frac{3}{4}$ respectively, then will $\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$ measure the probability of the happening of both these events.

Applying these rules to the Carlisle Table of Mortality, we find that as at the age 30 the number of persons alive of 10,000 born is 5642, while at 40 this number is reduced to 5075, the probability of a person aged 30 surviving 10 years will be measured by the fraction $\frac{5075}{5642}$. In the same way, the probability of a person aged

25 surviving 10 years, will be $\frac{5362}{5879}$. Again, the probability that 2 persons, of the ages 30 and 25, shall jointly survive 10 years, will be $\frac{5075}{5642} \times \frac{5362}{5879}$.

The average of forthcoming years, or what is improperly called by writers the *expectation of life*, is the number of years which, taking lives of the same age one with another, any one of these lives may be considered as sure of enjoying; those

who live beyond that period enjoying as much more in proportion to their number as those who fall short of it enjoy less. Consequently, the rule for finding it will be as follows :—Divide the sum of all the living at every age after the age of the given life by the number of persons living at that age : half unity added to the quotient will be the value required. Half unity is added, as the number of persons taken at the given age who have not lived out one year may be considered as having averaged one-half of a year's existence. The expectation of life at 90, by the Northampton Table, will be thus found :—The numbers living at each age above 90, added together, give $34 + 24 + 16 + 9 + 4 + 1 = 88$: the number living at 90 is 46, and the former divided by the latter gives 1·91, to which adding half unity = ·50, we have 2·41 for the expectation of life at 90.

The expectation of life is therefore different from the *term of probable life*, as the latter must obviously be the term within which a stated number of persons of a given age should be reduced to exactly one-half of the same number. Thus, according to the Carlisle Table, the expectation of life at birth is 38·72 years ; while the term of probable life is about 41 years.

The following table shows the expectation of life at different ages, deduced from the Northampton, Chester, Carlisle, and Government Tables ; Mr Davies' Table, founded on the experience of the Equitable Society, Mr Milne's Table for the whole population of Sweden, from 1776 to 1795, and De Parcieux's Table, founded on the French tontines :—

Age.	Carlisle.	Northampton.	Equitable.	De Parcieux.	Sweden.	Government.		Chester.	
						Males.	Females.	Males.	Females.
0	38·72	25·18	...	...	36·12	50·16	55·51	34·46	39·44
5	51·25	40·84	...	48·25	47·92	48·93	54·23	46·45	50·57
10	48·82	39·78	48·83	46·83	46·16	45·57	51·05	44·47	47·82
20	41·46	33·43	41·06	40·25	38·96	38·39	43·99	37·30	40·49
30	34·34	28·27	33·98	34·08	32·12	33·17	37·57	31·30	34·22
40	27·61	23·08	27·40	27·50	25·45	27·02	31·12	24·82	27·96
50	21·11	17·99	20·83	20·42	19·03	20·30	24·35	19·32	21·92
60	14·34	13·21	15·06	14·25	12·85	14·39	17·32	13·96	15·40
70	9·18	8·60	9·84	8·67	8·01	9·22	10·99	9·63	9·98
80	5·51	4·75	5·38	4·07	4·85	4·94	6·50	7·10	6·60
90	3·28	2·41	2·65	1·75	3·03	1·95	2·83	4·32	5·01

Valuation of Life Annuities, &c.—The probabilities of life are, in these operations, combined with the interest of money. [INTEREST.] If a person has 9 chances in 10 to obtain possession of £100 at the expiry of a year, the present value of his expectation (disregarding interest) is the product of 100 by the fraction $\frac{9}{10}$ or £90 ; but, assuming interest at 5 per cent., it is obvious, as the £90 is not due until the expiry of a year, that, in order to show its present value, it must be still farther reduced by one year's interest or rather discount on that sum. Similarly, if a person aged 30 is to acquire right to £1000 in the event of his attaining the age of 40, the present value of his expectation will be obtained by multiplying the £1000 by the probability of his attaining that age, and then discounting the product for 10 years ; the latter operation being, as already shown (Case 2), performed by multiplying the said product by the present value of £1 due at the end of 10 years. Thus, in the case supposed, assuming interest at 5 per cent., and the probabilities of life as at Carlisle, we shall have $1000 \times \frac{5075}{5642} \times \cdot 613913 = 552·216$, or £552, 4s. 4d., the present value required. In this way *Endowments* (Case 43) or *Assurances on Survivorship of Time* are calculated.

The value of life annuities may be obtained in the same manner, by finding the present value of each year's rent as it becomes due from the given age to the oldest in the table of mortality, and the sum of all these will be the total present value of the annuity ; but in finding the value of annuities on a number of lives of several successive ages, the process is considerably abridged by deducing the value of an annuity on the next younger life from the value of an annuity on a life one year older, as follows :—

Rule.—“ Begin with the oldest life in the table of observations ; add unity to the value of an annuity on that life (usually equal to 0), and multiply the sum by the expectation of a life one year younger, receiving £1 at the end of a year ; the product will be the value of an annuity on the life one year younger : this value being substituted for the value of an annuity on the oldest life, and the process repeated, will give the value of an annuity on the next younger life, and so on till we come to the age of the given life.”—(*Baily on Life Annuities*, p. 31.)

The value of annuities, as shown by the tables, is computed by this rule.* The following is the procedure in the case of the Carlisle Table for single lives, assuming the annuity to be £1, and interest at 5 per cent. per annum.

The oldest life in the Carlisle Table is 104, the value of an annuity on which being evidently equal to 0, we proceed thus :—

Ages.	Annuity + 1.		Probability.		£1 discounted for 1 Year.		Value of Annuity.
103	(1 + 0)	×	$\frac{1}{2}$	×	·9524	=	0·317
102	1·317	×	$\frac{2}{3}$	×	·9524	=	0·753
101	1·753	×	$\frac{3}{4}$	×	·9524	=	1·192
100	2·192	×	$\frac{4}{5}$	×	·9524	=	1·624
99	2·624	×	$\frac{5}{6}$	×	·9524	=	2·045
98	3·045	×	$\frac{6}{7}$	×	·9524	=	2·278

and so on till we come to the youngest age,—the operation being facilitated by the use of logarithms. The same procedure is followed in computing the values for joint lives. Thus assuming the Carlisle Table with interest at 5 per cent. as before, and the difference of age betwixt the two lives to be 5 years, we shall have

Ages.	Annuity + 1.		Probabilities.		£1 discounted for 1 year.		Value of Annuity.
103 & 98	(1 + 0)	×	$\frac{1 \times 11}{3 \times 14}$	×	·9524	=	0·240
102 & 97	1·249	×	$\frac{3 \times 14}{5 \times 18}$	×	·9524	=	0·555
101 & 96	1·555	×	$\frac{5 \times 18}{7 \times 23}$	×	·9524	=	0·828

and so on throughout. In this way tables have been formed of the value of annuities on single lives at all ages and at the common rates of interest ; and also on two joint lives : but cases which involve three lives are, in practice, solved by methods of approximation from the tables for two lives ; as the variety of combinations which three lives admit would render the tables of very great length. Their construction is, however, in principle the same as the tables for two lives.

At the close of this article tables are given for single lives founded on the Northampton observations, and for the various rates of 3, 4, 5, and 6 per cent. interest ; and by the kind permission of Mr Milne, similar tables are given, founded on the Carlisle observations, along with tables for joint lives. The tables for single lives include all ages, and those for joint lives all the usual combinations betwixt the ages 15 and 75. By means of these tables, nearly all the cases which occur in practice may be solved with facility.

Annuities Payable Half-Yearly, &c.—The values shown in the tables are computed on the supposition that the annuities are all payable yearly, and at the end of each year ; but if they be payable more frequently, their value will be increased. A person who receives a life annuity half-yearly, besides gaining one half-year's interest on every moiety of his annuity, may live to receive a half-year's annuity more than the person who receives an annuity once in and at the end of each year. For similar reasons, an annuity payable quarterly will be of greater value than that which is payable half-yearly. But however frequently the annuity may be payable, it has been found that its increase of value on this account cannot exceed half-a-year's purchase, which is the extent to which it is increased in the hypothetical case of the instalments being payable momentarily. Where the annuities are payable half-yearly, the common practical rule is to add $\frac{1}{2}$ of a year's purchase to their tabular value ; and when they are payable quarterly, to add $\frac{3}{4}$ of a year's purchase ; or expressing the same decimally, add to the tabular value of the yearly annuity, if it be payable half-yearly, ·250 ; quarterly, ·375 ;—also, if payable monthly, ·458 ; weekly, ·490 ; daily, ·499 ; and in the hypothetical case of their being payable momentarily, ·500. (*Milne*, p. 273. *Ansell on Friendly Societies*, p. 80.)

Practical Solution of Cases.—With these prefatory explanations, we shall now proceed to show the mode of solving by the tables the cases which usually occur in practice.

I. ANNUITIES ON SINGLE LIVES.

Case 25. To find the Value of an Annuity on the Life of a Person of a given Age.

Rule. Multiply the sum by the value of £1 annuity on the assigned life.

Ex. Required the value of an annuity of £30 on the life of a person aged 45 ; Carlisle Table, interest 4 per cent.

The value of an annuity of £1 on a life aged 45 is, by the Carlisle Table, 14·104, which, mul-

* Life contingencies are now sometimes computed by the method invented by Mr Barrett and improved by Mr Griffith Davies, an account of which is given by M. De Morgan in the *Companions to the Almanac* for 1840 and 1842. See also Jones on Annuities.

£ 25, given 750-0, or £700, 0s., the re-

6. To find the Annuity which any given person during the life of a Partner of Age.

Divide the given sum by the value of an annuity of £1 on the assigned life.

What annuity may be purchased for £1 on a life aged 45. Carlisle Table, 4 per cent.

$1 \div 10.101 = £0.0989$

7. To find the Value of an Annuity Determined by Number of Years.

Find the value of an annuity on a life for the desired term then the proposed life multiply by the present value of £1 at the end of the said term, and also the probability that the life shall continue so to product will give the result required.

A person aged 25 wishes to purchase an annuity of £50 for what may happen in 10 years after 45 required the present value.

Carlisle Table, 4 per cent.

Value of an annuity of £50 as at 45 is, by Table IX, 10.101.

Value of £1 at the end of 10 years is 0.6756.

Probability that a life aged 25 will survive 10 years is 0.7777.

Value of £50 annuity = 10.101 \times 0.6756 \times 0.7777 = 51.000, or £51, 0s.

8. To find the Value of a Temporary Annuity.

Find by Case 7 the value of an annuity for the proposed term; which subtract from the value of an annuity on a life of the same age; the difference will be the value re-

quired the value of an annuity of £50 on a life aged 25; Carlisle Table, 4 per cent.

Value of an annuity of £50 on a life aged 25 is, by Table IX, 10.101.

Value of an annuity of £50 on the said life for 10 years is 51.000.

Value of £50 annuity = 10.101 - 51.000 = 51.000, or £51, 0s.

9. Answer to Two Lives.

10. To find the Value of an Annuity on a Continuation of Two Lives, that is, so long as they both continue alive together.

Multiply the sum by the value of £1 on the two assigned lives.

Required the value of an annuity of £50 on the joint continuance of two lives, aged 40 and 50 by Table IX, 4 per cent.

Value of £1 on 40 and 50 is 7.751.

Value of £50 annuity = 7.751 \times 50 = 387.55, or £387, 11s. 6d.

11. Answer to Two Lives.

12. To find the Value of an Annuity on a Continuation of Two Lives, that is, so long as they both continue alive together.

Multiply the sum by the value of £1 on the two assigned lives.

Required the value of an annuity of £50 on the joint continuance of two lives, aged 40 and 50 by Table IX, 4 per cent.

Value of £1 on 40 and 50 is 7.751.

Value of £50 annuity = 7.751 \times 50 = 387.55, or £387, 11s. 6d.

13. Answer to Two Lives.

14. To find the Value of an Annuity on a Continuation of Two Lives, that is, so long as they both continue alive together.

Multiply the sum by the value of £1 on the two assigned lives.

Required the value of an annuity of £50 on the joint continuance of two lives, aged 40 and 50 by Table IX, 4 per cent.

Value of £1 on 40 and 50 is 7.751.

Value of £50 annuity = 7.751 \times 50 = 387.55, or £387, 11s. 6d.

to 10-000, and that to 31 and 40 is 10-000; dif-

ference 100 the fifth part of which, 20, being

continually deducted from the former of these

two values, given the four arithmetical means

which are the values of annuities on the corre-

sponding combinations of lives entered in the

table. Hence as 27 and 40 is the combination

of ages next to order to 31 and 40 we shall have

10-000 - 20 = 9-800, the value corresponding

to the combination 27 and 40, and 9-800 \times 10

= 98-000, or £98, 0s., the value required.

The result would obviously have been the

same had 4 times the common difference, 80, or 1000

been added to the value corresponding to the ages 31 and 40. Thus 10-000 + 1000 =

11-000 as before.

Case 15. To find the Value of an Annuity on the Longest of Two Lives, that is, for as long as either of them continues alive.

Rule. From the sum of the values of annuities on the two single lives subtract the value of an annuity on the two joint lives, and the remainder will be the result required.

16. Required the value of an annuity of £50 on the longest of two lives aged 20 and 30, Carlisle Table, 4 per cent.

By Table VII the value of a life aged 20 is 10-000

and of 30 9-000, and the sum of these, 19-000

from which subtract the value of the two joint lives by Table IX, 9-000, and the remainder 10-000, multiplied by 50, gives 500-000, or £500, 0s.

17. Answer to Three Lives.

Case 17. To find the Value of an Annuity on the Joint Continuance of Three Lives.

Rule. Take the value of the joint lives of the two oldest lives by Case 10, and find in the table for single lives the age of a single life equal, or the most nearly equal, to that value; then find the value of the joint lives of the youngest and that age found; the result will give the common approximation to the value required.

18. Required the value of an annuity of £100 on three joint lives, aged 15, 20, and 25 years respectively. Carlisle Table, 4 per cent.

The value of the joint lives, 15 and 20, is, by Table IX, 2-200

which in Table VII corresponds most nearly with a single life aged 40, and the value of the joint lives, 15 and 40 being by Table IX 12-001, we have 12-001 \times 100 = 1200-1, or £1200, 1s.

Case 18. To find the Value of an Annuity on the Longest of Three Lives.

Rule. From the sum of the values of annuities on all the single lives subtract the sum of the values of annuities on each pair of joint lives, and to the remainder add the value of an annuity on the three joint lives as found by last Case. The result will give the value required.

19. Required the value of an annuity of £100 on the longest of three lives, aged 15, 20, and 25. Carlisle Table, 4 per cent.

By Table VII the values of the single lives are for 15, 10-000; for 20, 9-000; for 25, 8-000,

and their sum is 27-000. By Table IX, the values of the joint lives are for 15 and 20, 12-001,

for 15 and 25, 12-001, for 20 and 25, 12-001,

and their sum is 36-003. Also the value of the three joint lives is by preceding Case, 12-001.

Hence we have 27-000 - 36-003 + 12-001 = 13-000, the value of annuity of £1 on the longest of the three lives, and 13-000 \times 100 = 1300-0, or £1300, 0s., the value required.

Case 19. To find the Value of an Annuity granted upon Three Lives on Condition of its ceasing as soon as any Two of them become Extinct.

Rule. From the sum of the values of annuities on each pair of joint lives, subtract twice the value of the three joint lives.

Ex. Let the annuity be £100, and the ages 10, 20, and 30 respectively. *Carline Table*, 4 per ct. The value of each pair of joint lives is, by *proceeding Case 40-400*, that of the three joint lives is by *Case 31* 10-001, and 4-005 = 14-006, or 14 = 10-005 hence 10-005 ÷ 14 = £1000, &c., the value required.

IV REVERSIONARY ANNUITIES

Case 31. To find the Value of the Reversion of an Annuity on Two or Perpetual Annuity, after the Death of a Person of a given Age, in a Single Payment.

Rule. Deduct the value of the assigned life from the perpetuity, then multiply the remainder by the rate or annuity.

Ex. Required the present value of the reversion of an annuity of £100 a year after the death of a person aged 40. *Carline Table*, interest 4 per ct.

The value of a perpetuity at 4 per cent, is 10-007 and of an annuity on a life of 40, 4-304, then 10-007 - 4-304 = 5-703, and 5-703 × 100 = £570-3 1/4.

Case 32. To find the Value of the Reversion of an Annuity on a Single Life after another, in a Single Payment.

Rule. From the value of the life in reversion, subtract the value of the two joint lives.

Ex. A person aged 40 wishes to purchase an annuity of £100 he has wife aged 45 after his death, provided also by the survivor, what is the present value thereof? *Carline Table*, 4 per ct.

By *Table VII*, the value corresponding to 40 is 10-100 from which deducting to find the value corresponding to the two 45, by *Table III*, there remains 5-613 and 5-613 × 100 = £561-3, or £561 the value required.

To find the value in annual payments. Divide the value in a single payment by the value of an annuity on the joint lives plus unity. Hence in the above example the annual payment would be £100 ÷ 11-684 = £8-54 or £8-10-10.

Case 33. To find the Value of the Reversion of an Annuity on a Single Life A after the longest of Two Lives B and C, in a Single Payment.

Rule. From the sum of the values of an annuity on the single life A, and on the three joint lives A, B, and C, subtract the sum of the values of an annuity on each pair of joint lives, A and B, and A and C.

$$A + ABC - (AB + AC)$$

Case 34. To find the Value of the Reversion of an Annuity on Two Joint Lives, A and B, on the failure of a Single Life C.

Rule. From the value of an annuity on the joint lives A and B, subtract the value of an annuity on the three joint lives A, B, and C.

$$AB - ABC$$

Case 35. To find the Value of a Reversion of an Annuity on the longest of Two Lives, A and B after a Single Life C.

Rule. From the sum of the values of annuities on the single lives in reversion A and B, and of an annuity on the three joint lives, deduct the sum of the values of an annuity on each pair of joint lives, A and B, and B and C, the difference will give the value required.

$$A + B + ABC - (AB + AC + BC)$$

Case 36. To find the Value of the Reversion of an Annuity on a Single Life A, on the failure of the Joint Lives B and C.

Rule. From the value of an annuity on the

life A, subtract the value of an annuity on the three joint lives, A, B, and C.

$$A - ABC$$

V ANNUITIES ON BROKEN AND JOINT LIVES, AND ON THE LONGEST OF TWO LIVES

Case 37. To determine the present Value of a given Sum, payable on the Death of a person of an assigned Age, or to find how much must be paid annually by a person of an assigned age, that he may receive a given sum on his death. **Rule.** Multiply the value of an annuity of £1 on an assigned life by the interest of £1 he can receive and subtract the product from unity, then dividing the remainder by the amount of £1 he can receive, the result will give the value of an annuity of £1, and this last multiplied by the given sum will produce the result required.

Ex. Required the present value of £1000, payable on the death of a person aged 40. *Carline Table*, 4 per cent.

The value of £1 annuity on a life of 40 being 10-100, which multiplied by 40, the interest of £1 per cent gives 4040, and the remainder from unity being 5-900; then 5-900 ÷ 10-100 = 58-41 and 58-41 × 1000 = £5841, or £5841-10-10, as required.

To find the value in annual payments. Divide the value in a single payment, found as above by the value of £1 annuity on the assigned life, plus unity. Hence, in the above example, we find 58-41 ÷ 10-104 = 5-784, or £5-10-10, the annual premium for an assurance of £1000 on a life of 40.

Case 38. To find the Value of a given Sum, payable on the Extinction of either of Two Lives. **Rule.** Subtract the value of an annuity on the joint lives (Case 31) instead of the value of an annuity on a single life, and proceed as in *Case 37*.

Case 39. To find the Value of a given Sum, payable on the Extinction of the longest of Two Lives. **Rule.** Subtract the value of an annuity on the longest of two lives (Case 35) instead of the value of an annuity on a single life, and proceed as in *Case 37*.

VI REVERSIONARY ANNUITIES ON BROKEN AND JOINT LIVES

Case 40. To find the present Value of a given Sum, payable at the End of a given number of Years, provided the Party assured survives that Period.

Rule. Multiply the present value of £1 he can receive for the given number of years by the probability that the given life will continue the period, and the product, multiplied by the given sum, will give the value required.

Ex. Required the present value of £100 payable at the end of 10 years, provided a person, aged 40, be then alive. *Carline Table*, 4 per cent.

The present value of £1 to be received at the end of 10 years is 6-756, and the probability that a person aged 40 will live that period 5-504 × 6-756. Hence we have 4-508 × 100 = 450-8 or 450-10-10.

To find the value in annual sums, payable at the commencement of each year. Divide the preceding result by the value of a temporary annuity plus unity for one year less than the given time.

VII DEFERRED AND ANNUAL ANNUITIES ON BROKEN LIVES

Case 41. To find the Value of a Deferred Annuity on a Single Life in one present Payment.

Rule. Find the value of an annuity on 4000 many years after than the given life answered by

* Many of the assurance offices have framed their tables on this basis, but always with an old fixed per centage varying from about 10 to 20 per cent, on the anticipated amount of premium for defray charges of management, and as a general reserve against contingencies. The addition of 10 per cent, which we assume has been adopted by several paying offices, on the British and Canadian tables, and others, should yield a considerable surplus or profit.—See page 226.

† Unity is added because in life assurances the first annual premium is paid at the date of entry.

term; which multiply by the probability of life attaining that period, and counted for the given number of years. Find the value of £100, payable on the death of a person aged 50, provided he survives; Carlisle Table, 3 per cent.

Find the value of an assurance of £100 on a life of 50, Carlisle, 3 per cent. is (Case 40) $\frac{3643}{4397}$, and £1 discounted at 3 per cent. is by Table II. $\cdot 744094$, $\frac{3643}{4397} \times \cdot 744094 = 41, 0s. 2d.$

Find the value in annual payments during a period: Divide the value in a single payment by unity added to the value of a temporary annuity on the life (Case 28) for one year, deferred period.

Find the value in annual payments during a period of the assured: Divide the value of a single payment by unity added to the value of a temporary annuity on the given life.

To find the Value of a Temporary Annuity on a Single Life in a Single Payment.

Find the value of an assurance on the death of a person, subtract the value of a deferred assurance on the same term.

Find the value in a single payment of an assurance of £100 for 7 years, of a person aged 24; Northampton Table, 3 per cent.

Find the value of an assurance of £100 on the death of a person aged 24, found by Case 40; from which, subtracting $\frac{35047}{4397}$, the value of an assurance of £100 on the death of a person aged 31 for 7 years, found by Case 44, or £9, 13s. 3d., as required.

Find the value in Annual Payments: Divide the value in a single payment by unity added to the value of a temporary annuity on the life for the less than the given term.

RULES ON SINGLE LIVES BY A DEFINITE NUMBER OF PAYMENTS.

To find the Value of an Assurance on a Single Life by a definite Number of Payments.

Find the value of an assurance on the death of a person, by unity added to the value of a temporary annuity on the life for the less than the given number of payments.

RULES ON SURVIVORSHIP OF LIVES.

To find the present Value of a given Assurance on the Death of A, provided B survives.

Find the rule, suppose A's age to be 34, and B's age to be 24. Find, by Case 41, the value of an assurance on the death of the joint lives 32 & 24, by Case 29, the value of £1 annuity on the joint lives 33 and 24 (that is, taking A at 32, and B at 24), to which add unity, and multiply by the number living at 33; then subtract by the amount of £1 in one year, and the remainder multiplied by the number living at 32, and will give the second term.

Find, by Case 29, the value of £1 annuity on the joint lives 31 and 24 (that is, taking A at 31, and B at 24), and multiply this value by the number living at 31; then divide the product by the number living at 32, and the quotient will give the third term.

Sum of the 1st and 3d terms subtract the second term, multiplied by half the sum of the 1st and 3d terms, will produce the value required.

Find the value in Annual Payments: Divide the value in a single payment, found as above, by the value of an annuity on the joint lives of A and B.

Ex. Required the present value of £400, payable to B, aged 24, on the decease of A, aged 32, provided B be then alive; Carlisle Table, 5 per cent.

Proceeding as above directed, the first term will be found to be £34962; the second £12809; the third £12858; and the excess of the sum of the 1st and 3d above the 2d, £39862; which, multiplied by £200, half the given sum, gives £79724, or £79, 14s. 6d., the value in a single payment.

And dividing this sum by £13658, the value of an annuity on the joint lives 32 and 24, plus unity, gives £58372, the annual payment required.

X. VALUATION OF POLICIES.

Case 48. To find the Value of a Policy of Assurance, effected for the whole Term of Life, after any given Period of Endurance.

Rule. 1st. Find the present value of the sum assured as at the age of valuation; 2d. Multiply the value of £1 annuity on the life at the age of valuation, plus unity,* by the annual premium at entry; the product will give the value of the future annual premiums; 3d. Subtract the value of the future annual premiums from the present value of the sum assured as at the age of valuation; the remainder will give the value required.

Ex. Required the value (immediately before the premium becomes due) of a policy for £100, effected ten years ago on a life then aged 40; Northampton Table, 3 per cent.

The present value of the sum assured as at 50 (Case 40), is 60866. The annual premium for an assurance of £100 on a life of 40 (Case 40), is 3398; which, multiplied by 13436, the value of £1 annuity on a life of 50, plus unity, gives 45656; and $60866 - 45656 = 15210$, or £15, 4s. 2d.

If the premium for the 11th year has been just paid, it falls to be added to the above value. Hence in this case $15210 + 3398 = 18608$, or £18, 12s. 2d.

N. B.—In valuing the policy the same rate of interest and table of mortality are taken as in calculating the value of the assurance; but it may be observed that few or none of the offices give the real worth of a policy, thus found, for its surrender; many of them deducting one-half, some one-fourth, others three-fifths.

XI. VALUATION OF BONUSES.

Case 49. To find the Value of any given Amount of Bonus, declared as an Addition to a Policy.

Rule. Multiply the given amount of bonus by the present value of £1, payable on the decease of the party.

Ex. Required the present value of a bonus of £500, the present age of the party being 42; Northampton Table, 4 per cent.

The present value of £1, payable on the decease of a life of 42, is (Case 40) $\cdot 46777$; and $500 \times \cdot 46777 = 233885$, or £233, 17s. 9d.

Case 50. To find what Reduction of the future Annual Premium is equivalent to any assigned Bonus.

Rule. Multiply the annual premium corresponding to the present value of £1 at the given age, by the given amount of bonus; the product will give the equivalent reduction of the future annual premium.

Ex. Required what reduction of annual premium is equivalent to a bonus of £100, declared on a policy of £1750, effected at the age of 47, the annual premium being £5643, and the present age of the assured 55 years; Carlisle Table, 3 per cent.

The annual premium corresponding to the present value of £1 at age 55 is (Case 40) $\cdot 045019$; and $\cdot 045019 \times 100 = 45019$, the equivalent reduction of annual premium required. Hence $5643 - 45019 = 519281$, or £51, 18s. 7d., the future annual premium.

* This term is only applicable if the Policy is renounced immediately before the annual premium becomes due.

TABLE I. Amount of £1 in any Number of Years not exceeding Seventy-Five.

6 per cent.	5 per cent.	4 per cent.	3 per cent.
1.060000	1.050000	1.040000	1.030000
1.123600	1.102500	1.081600	1.060900
1.191016	1.157625	1.124864	1.092727
1.262477	1.215506	1.169859	1.125819
1.338226	1.276262	1.216653	1.159274
1.418519	1.340096	1.265319	1.194052
1.503630	1.407100	1.315932	1.229874
1.593848	1.477455	1.368569	1.266770
1.689479	1.551328	1.423312	1.304773
1.790848	1.628895	1.480244	1.343916
1.898299	1.710339	1.539454	1.384234
2.012196	1.795856	1.601032	1.425761
2.132928	1.885649	1.665074	1.468534
2.260904	1.979932	1.731676	1.512590
2.396558	2.078928	1.800944	1.557967
2.540352	2.182875	1.872981	1.604706
2.692773	2.292018	1.947910	1.652848
2.854339	2.406619	2.025817	1.702433
3.025509	2.526950	2.106849	1.753506
3.207135	2.653298	2.191123	1.806111
3.399564	2.785963	2.278768	1.860295
3.603537	2.925261	2.369919	1.916103
3.819750	3.071524	2.464716	1.973687
4.048835	3.225100	2.563304	2.032794
4.291871	3.386355	2.665836	2.093778
4.549383	3.555673	2.772470	2.156591
4.822346	3.733466	2.883369	2.221289
5.111667	3.920129	2.998703	2.287928
5.418388	4.116136	3.118651	2.356566
5.743491	4.321942	3.243398	2.427262
6.088101	4.538939	3.373133	2.500060
6.453387	4.764941	3.508069	2.575063
6.840580	5.003189	3.648381	2.652335
7.250285	5.253348	3.794316	2.731915
7.683987	5.516015	3.946089	2.813862
8.142252	5.791816	4.103933	2.898278
8.626467	6.081407	4.268090	2.985227
9.134252	6.385477	4.438813	3.074783
9.667035	6.704751	4.616368	3.167027
10.22572	7.039399	4.801021	3.262038
10.810286	7.391988	4.993061	3.359899
11.421703	7.761588	5.192784	3.460626
12.05045	8.149667	5.400495	3.564517
12.698548	8.557150	5.616515	3.671452
13.366461	8.985008	5.841176	3.781596
14.055049	9.434258	6.074823	3.895044
14.765692	9.905971	6.317816	4.011895
15.499387	10.401127	6.570528	4.132252
16.257150	10.92133	6.833349	4.256219
17.039750	11.46740	7.106683	4.383806
17.848115	12.04077	7.390951	4.515423
18.682336	12.64281	7.686589	4.651086
19.543689	13.27495	7.994032	4.790812
20.43270	13.93870	8.313814	4.934125
21.35032	14.63563	8.646367	5.081249
22.29734	15.36741	8.992222	5.232413
23.27410	16.13578	9.351910	5.387651
24.28093	16.94257	9.725987	5.547001
25.31846	17.78970	10.11543	5.710503
26.38763	18.67919	10.51963	5.878163
27.48905	19.61315	10.94041	6.049835
28.62497	20.59380	11.37803	6.225402
29.79887	21.62349	11.83318	6.404794
30.99920	22.70467	12.30648	6.588105
32.22547	23.83990	12.79874	6.775398
33.47819	25.03190	13.31068	6.966722
34.75797	26.28349	13.84311	7.162129
36.06537	27.59706	14.39684	7.361677
37.40097	28.97755	14.97271	7.565426
38.76537	30.42643	15.57162	7.773437
40.15919	31.94775	16.19448	7.985767
41.58307	33.54513	16.84226	8.202471
43.03763	35.22239	17.51595	8.423598
44.52351	36.98361	18.21659	8.648198
46.04138	38.83269	18.94525	8.876326

TABLE II. Present Value of £1 due at the End of any Number of Years not exceeding Seventy-Five.

Years.	3 per cent.	4 per cent.	5 per cent.	6 per cent.
1	.970874	.961538	.952381	.943396
2	.942596	.924556	.907029	.892886
3	.915142	.888996	.863838	.850619
4	.888487	.854804	.822702	.810094
5	.862609	.821927	.783586	.772288
6	.837484	.790315	.746216	.735901
7	.813092	.759918	.710681	.699957
8	.789409	.730690	.676839	.665612
9	.766417	.702587	.644609	.632886
10	.744094	.675564	.613913	.601695
11	.722421	.649581	.584679	.571898
12	.701380	.624597	.556737	.543409
13	.680951	.600574	.530321	.516439
14	.661118	.577475	.505068	.491581
15	.641862	.555264	.481017	.467003
16	.623167	.533908	.458112	.443986
17	.605016	.513373	.436297	.421784
18	.587395	.493628	.415521	.400044
19	.570286	.474642	.395734	.383513
20	.553676	.456387	.376889	.364186
21	.537549	.438834	.358942	.346155
22	.521892	.421935	.341850	.332796
23	.506692	.405726	.325571	.311797
24	.491934	.390121	.310068	.295779
25	.477606	.375117	.295303	.280309
26	.463695	.360689	.281941	.266110
27	.450189	.346817	.267848	.252388
28	.437077	.333477	.255094	.239630
29	.424346	.320651	.242946	.227457
30	.411987	.308319	.231377	.215710
31	.399987	.296460	.220369	.204456
32	.388337	.285088	.209886	.193687
33	.377026	.274094	.199873	.183486
34	.366045	.263552	.190365	.173712
35	.355383	.253415	.181290	.164405
36	.345032	.243669	.172667	.155574
37	.334983	.234297	.164436	.147193
38	.325226	.225285	.156616	.139229
39	.315754	.216621	.149148	.131686
40	.306557	.208289	.142046	.124512
41	.297628	.200278	.135262	.117719
42	.288959	.192575	.128840	.111287
43	.280543	.185168	.122704	.105269
44	.272372	.178046	.116861	.099599
45	.264439	.171198	.111297	.094229
46	.256737	.164614	.105997	.089133
47	.249259	.158283	.100949	.084286
48	.241999	.152195	.096142	.079686
49	.234950	.146341	.091564	.075326
50	.228107	.140713	.087204	.071196
51	.221463	.135301	.083051	.067286
52	.215013	.130197	.079096	.063586
53	.208750	.125493	.075330	.059986
54	.202670	.121082	.071743	.056586
55	.196767	.116956	.068326	.053386
56	.191036	.113007	.065073	.050377
57	.185472	.109300	.061974	.047546
58	.180070	.105817	.059023	.044886
59	.174825	.102543	.056212	.042386
60	.169733	.100000	.053536	.040034
61	.164789	.0971404	.050986	.037834
62	.159990	.094889	.048558	.035786
63	.155330	.092406	.046246	.033886
64	.150806	.089658	.044044	.032036
65	.146413	.086633	.041946	.030336
66	.142149	.083328	.039949	.028786
67	.138009	.079738	.038047	.027386
68	.133989	.076860	.036236	.026036
69	.130086	.073788	.034509	.024836
70	.126297	.0705219	.032866	.023686
71	.122619	.0671749	.031301	.022686
72	.119047	.0637374	.029811	.021736
73	.115580	.0602061	.028391	.020836
74	.112214	.0565895	.027039	.019986
75	.108945	.0528784	.025751	.019186

TABLE III. Amount of £1 per Annum at End of any Number of Years not exceeding Seventy-Five.

Years	5 per cent.	4 per cent.	3 per cent.
1	1.000000	1.000000	1.000000
2	2.000000	2.040000	2.030000
3	3.150000	3.121600	3.090000
4	4.310000	4.246400	4.183000
5	5.490000	5.416320	5.308100
6	6.690000	6.632976	6.465416
7	7.910000	7.896864	7.654889
8	9.150000	9.217496	8.876336
9	10.410000	10.585392	10.129111
10	11.690000	12.000816	11.513008
11	12.990000	13.464336	12.927380
12	14.310000	14.976416	14.371617
13	15.650000	16.536512	15.846079
14	17.010000	18.144192	17.351129
15	18.390000	19.799936	18.887244
16	19.790000	21.503328	20.454884
17	21.210000	23.254944	22.054508
18	22.650000	25.055280	23.686676
19	24.110000	26.904832	25.351848
20	25.590000	28.803104	27.050584
21	27.090000	30.750592	28.783448
22	28.610000	32.747808	30.550992
23	30.150000	34.795248	32.353776
24	31.710000	36.893424	34.192352
25	33.290000	39.042848	36.067360
26	34.890000	41.244016	37.979440
27	36.510000	43.497440	39.929232
28	38.150000	45.753632	41.917376
29	39.810000	48.013104	43.944528
30	41.490000	50.276368	46.011328
31	43.190000	52.543920	48.118432
32	44.910000	54.816272	50.266496
33	46.650000	57.093920	52.456160
34	48.410000	59.377376	54.688176
35	50.190000	61.667136	56.963200
36	51.990000	63.963712	59.281984
37	53.810000	66.267600	61.645280
38	55.650000	68.579312	64.053744
39	57.510000	70.898352	66.508032
40	59.390000	73.225216	68.909808
41	61.290000	75.559408	71.359728
42	63.210000	77.901440	73.858464
43	65.150000	80.251808	76.406656
44	67.110000	82.610016	78.994944
45	69.090000	84.976560	81.623984
46	71.090000	87.351936	84.294432
47	73.110000	89.736640	86.996928
48	75.150000	92.130176	89.732128
49	77.210000	94.532144	92.500672
50	79.290000	96.943056	95.303216
51	81.390000	99.362416	98.140416
52	83.510000	101.790736	101.012832
53	85.650000	104.228512	103.921024
54	87.810000	106.676256	106.856640
55	89.990000	109.134464	109.820224
56	92.190000	111.603632	112.812416
57	94.410000	114.084272	115.833776
58	96.650000	116.576896	118.884864
59	98.910000	119.081904	121.966224
60	101.190000	121.599808	125.078496
61	103.490000	124.130112	128.222304
62	105.810000	126.673328	131.398208
63	108.150000	129.229968	134.605856
64	110.510000	131.799536	137.845808
65	112.890000	134.382544	141.118608
66	115.290000	136.979504	144.424896
67	117.710000	139.590912	147.765312
68	120.150000	142.217280	151.140496
69	122.610000	144.858112	154.551072
70	125.090000	147.513920	158.000000

Value of Forfeited Annuity.

TABLE IV. Present Value of £1 per Annum for any Number of Years not exceeding Seventy-Five.

Years	5 per cent.	4 per cent.	3 per cent.
1	97.0874	98.1338	99.2381
2	1.913470	1.989493	1.989493
3	2.828811	2.979491	2.979491
4	3.717008	3.932906	3.932906
5	4.579077	4.861859	4.861859
6	5.417121	5.768137	5.768137
7	6.231983	6.655105	6.655105
8	7.023992	7.525343	7.525343
9	7.793107	8.379332	8.379332
10	8.539843	9.218461	9.218461
11	9.264624	10.044177	10.044177
12	9.966844	10.856974	10.856974
13	10.646969	11.658253	11.658253
14	11.305371	12.448441	12.448441
15	11.942504	13.228066	13.228066
16	12.558810	13.997677	13.997677
17	13.154818	14.757818	14.757818
18	13.731031	15.508939	15.508939
19	14.288000	16.251494	16.251494
20	14.825247	16.985933	16.985933
21	15.343262	17.712618	17.712618
22	15.842447	18.431904	18.431904
23	16.323201	19.144148	19.144148
24	16.785924	19.849694	19.849694
25	17.230916	20.548896	20.548896
26	17.658577	21.242000	21.242000
27	18.069309	21.929356	21.929356
28	18.463511	22.611308	22.611308
29	18.841584	23.288200	23.288200
30	19.203927	23.960472	23.960472
31	19.550943	24.628564	24.628564
32	19.883032	25.292828	25.292828
33	20.200604	25.953616	25.953616
34	20.504069	26.611384	26.611384
35	20.793827	27.266584	27.266584
36	21.070288	27.919664	27.919664
37	21.333861	28.570064	28.570064
38	21.584946	29.218224	29.218224
39	21.823043	29.864592	29.864592
40	22.049561	30.509512	30.509512
41	22.264000	31.153328	31.153328
42	22.466869	31.795488	31.795488
43	22.658578	32.436448	32.436448
44	22.839537	33.075664	33.075664
45	23.010156	33.713584	33.713584
46	23.170844	34.350656	34.350656
47	23.322011	34.986432	34.986432
48	23.464068	35.621344	35.621344
49	23.597424	36.255840	36.255840
50	23.722489	36.889472	36.889472
51	23.839663	37.522672	37.522672
52	23.948346	38.155872	38.155872
53	24.049028	38.788512	38.788512
54	24.141209	39.421024	39.421024
55	24.225389	40.053856	40.053856
56	24.301968	40.686544	40.686544
57	24.370446	41.319536	41.319536
58	24.431323	41.952384	41.952384
59	24.484100	42.585632	42.585632
60	24.529277	43.218832	43.218832
61	24.576354	43.852528	43.852528
62	24.615831	44.486256	44.486256
63	24.657208	45.120448	45.120448
64	24.690985	45.755632	45.755632
65	24.727662	46.391344	46.391344
66	24.757739	47.028016	47.028016
67	24.780716	47.665184	47.665184
68	24.797093	48.303296	48.303296
69	24.807370	48.942000	48.942000
70	24.812047	49.581856	49.581856

TABLE V. Exhibiting the Annual Decrements of Life, or Law of Mortality, among
Observations made at Northampton and Carlisle.

[illegible]

TABLE VI. Value of an Annuity of £1 on a Single Life (or Number of Years' Purchase Annuity), according to the Probabilities of Life at Northampton.

Age	3 per cent.	4 per cent.	5 per cent.	6 per cent.	Age	3 per cent.	4 per cent.	5 per cent.	6 per cent.
0	12-970	10-327	8-863		48	12-931	11-685	10-616	
1	18-021	13-403	11-563	10-107	49	12-930	11-475	10-442	
2	18-582	13-633	13-480	11-784	50	12-430	11-264	10-208	
3	19-573	16-482	14-136	12-348	51	12-183	11-037	10-097	
4	20-210	17-010	14-613	12-780	52	11-930	10-819	9-925	
5	20-473	17-248	14-827	12-982	53	11-674	10-637	9-748	
6	20-727	17-482	15-041	13-150	54	11-414	10-481	9-587	
7	20-833	17-611	15-166	13-273	55	11-150	10-301	9-389	
8	20-885	17-668	15-226	13-337	56	10-882	10-077	9-190	
9	20-812	17-626	15-210	13-335	57	10-611	9-749	8-890	
10	20-163	17-523	15-130	13-295	58	10-337	9-516	8-601	
11	20-480	17-380	15-043	13-212	59	10-068	9-280	8-380	
12	20-283	17-261	14-937	13-130	60	9-777	9-038	8-302	
13	20-101	17-103	14-826	13-044	61	9-483	8-795	8-181	
14	19-872	16-956	14-710	12-953	62	9-205	8-547	7-948	
15	19-657	16-791	14-588	12-857	63	8-910	8-291	7-742	
16	19-435	16-623	14-460	12-755	64	8-611	8-030	7-514	
17	19-218	16-462	14-334	12-653	65	8-304	7-761	7-276	
18	19-13	16-300	14-217	12-552	66	7-994	7-488	7-034	
19	18-890	16-107	14-100	12-477	67	7-682	7-211	6-787	
20	18-638	15-933	14-007	12-398	68	7-367	6-930	6-538	
21	18-470	15-812	13-917	12-329	69	7-051	6-647	6-281	
22	18-311	15-707	13-831	12-263	70	6-734	6-361	6-023	
23	18-148	15-580	13-746	12-200	71	6-418	6-075	5-764	
24	17-983	15-560	13-658	12-139	72	6-103	5-790	5-504	
25	17-814	15-438	13-577	12-083	73	5-794	5-507	5-245	
26	17-642	15-312	13-473	11-989	74	5-481	5-230	4-980	
27	17-467	15-184	13-377	11-917	75	5-169	4-963	4-744	
28	17-289	15-053	13-278	11-841	76	4-856	4-710	4-511	
29	17-107	14-918	13-177	11-763	77	4-552	4-457	4-277	
30	16-922	14-781	13-072	11-682	78	4-257	4-167	4-035	
31	16-732	14-639	12-963	11-598	79	4-077	3-921	3-778	
32	16-540	14-496	12-854	11-512	80	3-781	3-643	3-515	
33	16-343	14-347	12-740	11-423	81	3-499	3-377	3-263	
34	16-143	14-195	12-623	11-331	82	3-220	3-122	3-020	
35	15-938	14-039	12-502	11-236	83	2-942	2-887	2-797	
36	15-729	13-880	12-377	11-137	84	2-703	2-706	2-627	
37	15-515	13-716	12-248	11-035	85	2-460	2-543	2-471	
38	15-298	13-548	12-116	10-939	86	2-248	2-330	2-268	
39	15-075	13-378	11-979	10-819	87	2-019	2-251	2-193	
40	14-848	13-197	11-837	10-705	88	1-885	2-131	2-080	
41	14-620	13-018	11-698	10-589	89	1-651	1-967	1-924	
42	14-391	12-838	11-551	10-473	90	1-424	1-758	1-723	
43	14-162	12-657	11-407	10-356	91	1-201	1-574	1-547	
44	13-929	12-472	11-258	10-233	92	1-180	1-471	1-453	
45	13-699	12-283	11-103	10-110	93	1-036	1-327	1-316	
46	13-460	12-088	10-947	9-980	94	1-036	1-327	1-316	
47	13-200	11-880	10-784	9-848	95	1-036	1-327	1-316	

TABLE VII. Value of an Annuity of £1, on a Single Life (or Number of Years' Purchase of an Annuity), according to the Probabilities of Life at Carlisle.

Age.	3 per cent.	4 per cent.	5 per cent.	6 per cent.	Age.	3 per cent.	4 per cent.	5 per cent.	6 per cent.
0	17.380	14.283	12.083	10.439	52	13.358	12.258	11.184	10.208
1	30.085	16.556	13.983	12.078	53	13.180	11.945	10.882	9.988
2	21.501	17.729	14.983	12.925	54	12.798	11.627	10.624	9.761
3	22.683	18.717	15.824	13.652	55	12.408	11.300	10.347	9.524
4	22.285	19.233	16.271	14.042	56	12.014	10.966	10.063	9.280
5	23.083	19.594	16.380	14.385	57	11.614	10.625	9.771	9.027
6	23.686	19.747	16.738	14.460	58	11.218	10.286	9.478	8.772
7	23.687	19.792	16.790	14.518	59	10.841	9.963	9.199	8.529
8	23.801	19.766	16.788	14.526	60	10.491	9.663	8.940	8.304
9	23.677	19.683	16.742	14.500	61	10.180	9.386	8.712	8.108
10	23.319	19.585	16.669	14.448	62	9.875	9.137	8.487	7.913
11	23.327	19.460	16.561	14.384	63	9.567	8.872	8.358	7.714
12	23.143	19.336	16.494	14.321	64	9.246	8.593	8.016	7.502
13	22.987	19.210	16.406	14.257	65	8.917	8.307	7.765	7.281
14	22.789	19.082	16.316	14.191	66	8.578	8.010	7.503	7.049
15	22.582	18.966	16.222	14.126	67	8.238	7.700	7.227	6.803
16	22.404	18.837	16.144	14.067	68	7.899	7.380	6.941	6.548
17	22.223	18.723	16.066	14.012	69	7.499	7.049	6.643	6.277
18	22.058	18.608	15.967	13.956	70	7.123	6.709	6.336	5.988
19	21.879	18.488	15.904	13.897	71	6.737	6.358	6.015	5.704
20	21.684	18.363	15.817	13.835	72	6.373	6.026	5.711	5.424
21	21.504	18.233	15.726	13.769	73	6.044	5.728	5.426	5.170
22	21.304	18.095	15.628	13.697	74	5.752	5.458	5.190	4.944
23	21.096	17.951	15.525	13.621	75	5.512	5.239	4.989	4.760
24	20.885	17.801	15.417	13.541	76	5.277	5.024	4.792	4.579
25	20.665	17.645	15.303	13.456	77	5.059	4.825	4.609	4.410
26	20.449	17.486	15.187	13.368	78	4.838	4.622	4.422	4.238
27	20.212	17.320	15.065	13.275	79	4.622	4.394	4.210	4.040
28	19.981	17.154	14.949	13.182	80	4.365	4.183	4.015	3.838
29	19.701	16.997	14.827	13.086	81	4.119	3.953	3.799	3.626
30	19.556	16.852	14.733	13.000	82	3.898	3.746	3.606	3.474
31	19.348	16.705	14.617	12.943	83	3.672	3.534	3.406	3.286
32	19.134	16.552	14.506	12.880	84	3.454	3.329	3.211	3.102
33	18.910	16.390	14.387	12.771	85	3.229	3.115	3.009	2.909
34	18.678	16.219	14.260	12.675	86	3.033	2.920	2.830	2.730
35	18.433	16.041	14.127	12.573	87	2.873	2.776	2.686	2.599
36	18.183	15.856	13.987	12.465	88	2.776	2.683	2.597	2.515
37	17.978	15.666	13.843	12.354	89	2.668	2.577	2.495	2.417
38	17.769	15.471	13.696	12.239	90	2.499	2.416	2.339	2.266
39	17.405	15.272	13.549	12.120	91	2.461	2.398	2.321	2.248
40	17.143	15.074	13.390	12.002	92	2.577	2.492	2.412	2.337
41	16.890	14.883	13.245	11.890	93	2.687	2.600	2.518	2.440
42	16.640	14.694	13.101	11.778	94	2.736	2.650	2.568	2.492
43	16.389	14.505	12.957	11.668	95	2.787	2.674	2.596	2.523
44	16.130	14.308	12.806	11.551	96	2.704	2.628	2.553	2.488
45	15.883	14.104	12.648	11.428	97	2.559	2.499	2.428	2.368
46	15.588	13.899	12.480	11.296	98	2.388	2.339	2.276	2.227
47	15.284	13.682	12.301	11.154	99	2.131	2.087	2.045	2.004
48	14.986	13.419	12.107	10.999	100	1.863	1.853	1.844	1.836
49	14.684	13.153	11.899	10.823	101	1.526	1.510	1.502	1.495
50	14.383	12.889	11.680	10.631	102	1.171	1.162	1.153	1.145
51	14.082	12.626	11.451	10.422	103	0.824	0.821	0.817	0.814

TABLE VIII. Value of an Annuity of £1 on a Single Life (or Number of Years' Purchase of an Annuity), according to the Probabilities of Life among the Government Annuitants; reckoning Interest at the rate of 5 per cent. per Annum.

Age.	Male.	Female.	Age.	Male.	Female.	Age.	Male.	Female.	Age.	Male.	Female.
44	12.614	10.336	59	14.475	15.309	44	12.681	13.713	59	9.226	10.397
45	12.484	10.244	60	14.303	15.216	45	12.392	13.569	60	8.956	10.330
46	12.356	10.174	61	14.136	15.126	46	12.192	13.414	61	8.783	10.259
47	12.235	10.119	62	14.014	15.033	47	11.976	13.251	62	8.484	9.766
48	12.125	10.064	63	14.114	14.938	48	11.749	13.086	63	8.236	9.476
49	12.031	10.000	64	14.007	14.842	49	11.515	12.900	64	7.984	9.181
50	11.960	9.946	65	13.892	14.744	50	11.274	12.710	65	7.682	8.884
51	11.883	9.888	66	13.770	14.648	51	11.039	12.508	66	7.409	8.584
52	11.840	9.824	67	13.643	14.549	52	10.797	12.295	67	7.153	8.284
53	11.803	9.759	68	13.519	14.447	53	10.584	12.073	68	6.900	7.982
54	11.777	9.691	69	13.376	14.339	54	10.336	11.842	69	6.648	7.676
55	11.727	9.619	70	13.235	14.227	55	10.112	11.604	70	6.399	7.369
56	11.683	9.544	71	13.087	14.107	56	9.900	11.361	71	6.157	7.072
57	11.630	9.466	72	12.927	13.982	57	9.670	11.112	72	5.919	6.775
58	11.580	9.385	73	12.760	13.851	58	9.450	10.857			

TABLE IX. Value of an Annuity of £1 (or Number of Years' Purchase of an Ann
Joint Continuance of Two Lives not under 16, nor exceeding 75 Years of Age, according
Carlisle Table of Mortality, and reckoning Interest at the several Rates of 2,
per cent. per Annum.

Age Male	3 per cent.	4 per cent.	5 per cent.	6 per cent.	Age Female	3 per cent.	4 per cent.	5 per cent.	6 per cent.
15 15	18-348	16-372	14-215	12-578	23 26	16-224	14-670	13-001	11-601
16 16	18-719	16-134	14-112	12-489	24 29	16-224	14-300	12-800	11-500
17 17	18-542	16-007	14-018	12-428	25 30	16-311	14-239	12-700	11-400
18 18	18-368	15-880	13-925	12-368	26 31	16-407	14-176	12-600	11-300
19 19	18-195	15-748	13-827	12-294	27 32	15-675	14-006	12-500	11-200
20 20	17-983	15-610	13-724	12-206	28 33	15-648	13-830	12-400	11-100
21 21	17-797	15-468	13-616	12-123	29 34	15-424	13-657	12-300	11-000
22 22	17-588	15-310	13-507	12-031	30 35	15-200	13-491	12-200	10-900
23 23	17-372	15-148	13-372	11-933	31 36	14-989	13-321	12-100	10-800
24 24	17-148	14-978	13-240	11-839	32 37	14-764	13-146	12-000	10-700
25 25	16-916	14-800	13-101	11-718	33 38	14-531	12-964	11-900	10-600
26 26	16-681	14-620	12-960	11-600	34 39	14-290	12-778	11-800	10-500
27 27	16-437	14-431	12-811	11-485	35 40	14-048	12-581	11-700	10-400
28 28	16-196	14-244	12-663	11-365	36 41	13-812	12-384	11-600	10-300
29 29	15-976	14-075	12-530	11-259	37 42	13-579	12-189	11-500	10-200
30 30	15-784	13-930	12-419	11-173	38 43	13-346	12-024	11-400	10-100
31 31	15-591	13-784	12-308	11-091	39 44	13-117	11-833	11-300	10-000
32 32	15-392	13-632	12-191	11-005	40 45	12-888	11-641	11-200	9-900
33 33	15-180	13-480	12-064	10-924	41 46	12-659	11-450	11-100	9-800
34 34	14-964	13-324	11-936	10-783	42 47	12-429	11-256	11-000	9-700
35 35	14-730	13-111	11-780	10-688	43 48	12-199	11-053	10-900	9-600
36 36	14-477	12-919	11-627	10-541	44 49	11-968	10-830	10-800	9-500
37 37	14-211	12-724	11-470	10-413	45 50	11-730	10-591	10-700	9-400
38 38	13-941	12-525	11-310	10-281	46 51	11-491	10-332	10-600	9-300
39 39	13-727	12-322	11-144	10-145	47 52	11-255	10-065	10-500	9-200
40 40	13-481	12-125	10-984	10-014	48 53	11-020	9-797	10-400	9-100
41 41	13-234	11-945	10-830	9-888	49 54	10-784	9-522	10-300	9-000
42 42	13-036	11-772	10-701	9-765	50 55	10-548	9-251	10-200	8-900
43 43	12-822	11-602	10-596	9-677	51 56	10-320	8-985	10-100	8-800
44 44	12-600	11-436	10-425	9-583	52 57	10-092	8-724	10-000	8-700
45 45	12-371	11-245	10-271	9-444	53 58	9-864	8-468	9-900	8-600
46 46	12-138	11-047	10-119	9-314	54 59	9-636	8-217	9-800	8-500
47 47	11-900	10-837	9-947	9-172	55 60	9-408	7-974	9-700	8-400
48 48	11-641	10-627	9-736	9-013	56 61	9-180	7-729	9-600	8-300
49 49	11-379	10-415	9-535	8-826	57 62	8-952	7-480	9-500	8-200
50 50	11-112	10-200	9-331	8-617	58 63	8-724	7-235	9-400	8-100
51 51	10-841	10-000	9-123	8-384	59 64	8-496	6-985	9-300	8-000
52 52	10-565	9-794	8-917	8-147	60 65	8-268	6-735	9-200	7-900
53 53	10-284	9-584	8-704	7-905	61 66	8-040	6-485	9-100	7-800
54 54	10-000	9-374	8-494	7-658	62 67	7-812	6-235	9-000	7-700
55 55	9-712	9-164	8-284	7-407	63 68	7-584	5-985	8-900	7-600
56 56	9-424	8-954	8-074	7-150	64 69	7-356	5-735	8-800	7-500
57 57	9-136	8-744	7-864	6-893	65 70	7-128	5-485	8-700	7-400
58 58	8-848	8-534	7-654	6-636	66 71	6-900	5-235	8-600	7-300
59 59	8-560	8-324	7-444	6-379	67 72	6-672	4-985	8-500	7-200
60 60	8-272	8-114	7-234	6-122	68 73	6-444	4-735	8-400	7-100
61 61	7-984	7-904	7-014	5-865	69 74	6-216	4-485	8-300	7-000
62 62	7-696	7-694	6-804	5-608	70 75	5-988	4-235	8-200	6-900
63 63	7-408	7-484	6-594	5-351					
64 64	7-120	7-274	6-384	5-094					
65 65	6-832	7-024	6-194	4-837					
66 66	6-544	6-814	6-004	4-580					
67 67	6-256	6-604	5-794	4-323					
68 68	5-968	6-394	5-584	4-066					
69 69	5-680	6-184	5-374	3-809					
70 70	5-392	5-974	5-164	3-552					
71 71	5-104	5-764	4-954	3-295					
72 72	4-816	5-554	4-744	3-038					
73 73	4-528	5-344	4-534	2-781					
74 74	4-240	5-134	4-324	2-524					
75 75	3-952	4-924	4-114	2-267					
76 76	3-664	4-714	3-904	2-010					
77 77	3-376	4-504	3-694	1-753					
78 78	3-088	4-294	3-484	1-496					
79 79	2-800	4-084	3-274	1-239					
80 80	2-512	3-874	3-064	1-000					
81 81	2-224	3-664	2-854	770					
82 82	1-936	3-454	2-644	540					
83 83	1-648	3-244	2-434	310					
84 84	1-360	3-034	2-224	80					
85 85	1-072	2-824	2-014	0					
86 86	0-784	2-614	1-804	0					
87 87	0-496	2-404	1-594	0					
88 88	0-208	2-194	1-384	0					
89 89	0-000	1-984	1-174	0					
90 90	0-000	1-774	0-964	0					
91 91	0-000	1-564	0-754	0					
92 92	0-000	1-354	0-544	0					
93 93	0-000	1-144	0-334	0					
94 94	0-000	0-934	0-124	0					
95 95	0-000	0-724	0-000	0					
96 96	0-000	0-514	0-000	0					
97 97	0-000	0-304	0-000	0					
98 98	0-000	0-094	0-000	0					
99 99	0-000	0-000	0-000	0					
100 100	0-000	0-000	0-000	0					

Age	3 per cent.	4 per cent.	5 per cent.	6 per cent.	Age	3 per cent.	4 per cent.	5 per cent.	6 per cent.
15	12-331	12-019	10-912	9-288	15	15-295	14-347	12-755	11-462
16	12-082	11-610	10-730	9-036	16	15-053	14-189	12-628	11-322
17	11-833	11-410	10-579	8-886	17	14-834	13-993	12-489	11-244
18	11-580	11-308	10-306	8-545	18	14-603	13-815	12-350	11-133
19	11-327	11-146	10-196	8-376	19	14-387	13-632	12-208	11-018
20	11-084	10-894	9-984	8-197	20	14-131	13-449	12-062	10-903
21	10-845	10-635	9-708	8-012	21	13-883	13-272	11-923	10-793
22	10-608	10-378	9-548	7-827	22	13-673	13-094	11-783	10-671
23	10-371	10-120	9-329	7-639	23	13-449	12-914	11-641	10-548
24	10-130	9-856	9-104	7-445	24	13-203	12-726	11-492	10-448
25	9-885	9-583	8-870	7-243	25	12-954	12-530	11-335	10-323
26	9-633	9-301	8-626	7-031	26	12-698	12-325	11-170	10-189
27	9-373	9-020	8-372	6-808	27	12-425	12-107	10-993	10-044
28	9-108	8-731	8-111	6-578	28	12-143	11-878	10-808	9-899
29	8-838	8-446	7-851	6-348	29	11-849	11-638	10-607	9-754
30	8-563	8-159	7-601	6-117	30	11-551	11-383	10-404	9-604
31	8-283	7-869	7-370	5-883	31	11-237	11-132	10-188	9-450
32	8-000	7-571	7-148	5-643	32	10-919	10-880	9-959	9-290
33	7-713	7-250	6-911	5-400	33	10-594	10-643	9-730	9-125
34	7-423	6-978	6-660	5-153	34	10-261	10-311	9-490	8-955
35	7-129	6-708	6-410	4-903	35	9-919	10-020	9-240	8-780
36	6-832	6-508	6-156	4-650	36	9-570	9-721	8-981	8-604
37	6-532	6-208	5-881	4-393	37	9-216	9-418	8-716	8-421
38	6-229	5-907	5-600	4-133	38	8-856	9-111	8-449	8-235
39	5-923	5-591	5-319	3-870	39	8-491	8-820	8-184	7-949
40	5-614	5-283	5-044	3-603	40	8-124	8-553	7-911	7-763
41	5-302	4-970	4-779	3-333	41	7-754	8-283	7-763	7-577
42	4-987	4-655	4-529	3-060	42	7-383	8-014	7-571	7-390
43	4-669	4-337	4-308	2-783	43	6-999	7-784	7-379	7-203
44	4-349	4-016	4-104	2-503	44	6-613	7-551	7-174	6-999
45	4-027	3-692	3-921	2-220	45	6-224	7-311	6-964	6-793
46					46	5-832	7-064	6-740	6-586
47					47	5-437	6-813	6-503	6-378
48					48	5-039	6-558	6-251	6-163
49					49	4-638	6-300	6-000	5-948
50					50	4-234	6-039	5-735	5-733
51					51	3-827	5-775	5-469	5-518
52					52	3-417	5-508	5-203	5-293
53					53	3-004	5-238	4-937	5-078
54					54	2-588	4-964	4-670	4-862
55					55	2-169	4-686	4-400	4-647
56					56	1-747	4-404		4-432
57					57	1-322	4-118		4-217
58					58	9-793	12-623	12-801	11-019
59					59	9-434	12-444	12-651	10-908
60					60	9-070	12-273	12-509	10-803
61					61	8-701	12-103	12-357	10-699
62					62	8-327	11-932	12-205	10-595
63					63	7-949	11-761	12-053	10-491
64					64	7-567	11-590	11-901	10-387
65					65	7-181	11-417	11-728	10-283
66					66	6-791	11-244	11-555	10-179
67					67	6-397	11-070	11-381	10-075
68					68	5-999	10-896	11-197	9-971
69					69	5-598	10-721	11-012	9-867
70					70	5-193	10-546	10-827	9-763
71					71	4-784	10-370	10-642	9-659
72					72	4-371	10-194	10-457	9-555
73					73	3-954	10-018	10-272	9-451
74					74	3-533	9-841	10-087	9-347
75					75	3-108	9-664	9-902	9-243
76					76	2-679	9-486	9-717	9-139
77					77	2-246	9-308	9-532	9-035
78					78	1-811	9-129	9-347	8-931
79					79	1-374	8-949	9-162	8-827
80					80	9-793	12-623	12-801	11-019
81					81	9-434	12-444	12-651	10-908
82					82	9-070	12-273	12-509	10-803
83					83	8-701	12-103	12-357	10-699
84					84	8-327	11-932	12-205	10-595
85					85	7-949	11-761	12-053	10-491
86					86	7-567	11-590	11-901	10-387
87					87	7-181	11-417	11-728	10-283
88					88	6-791	11-244	11-555	10-179
89					89	6-397	11-070	11-381	10-075
90					90	5-999	10-896	11-197	9-971
91					91	5-598	10-721	11-012	9-867
92					92	5-193	10-546	10-827	9-763
93					93	4-784	10-370	10-642	9-659
94					94	4-371	10-194	10-457	9-555
95					95	3-954	10-018	10-272	9-451
96					96	3-533	9-841	10-087	9-347
97					97	3-108	9-664	9-902	9-243
98					98	2-679	9-486	9-717	9-139
99					99	2-246	9-308	9-532	9-035
100					100	1-811	9-129	9-347	8-931

Age.						Age.					
162.	70 years.	3 per cent.	4 per cent.	5 per cent.	6 per cent.	163.	70 years.	3 per cent.	4 per cent.	5 per cent.	6 per cent.
15	45	14-381	12-1884	11-630	10-570	15	55	11-588	10-443	9-482	8-643
16	46	14-229	12-085	11-472	10-443	16	56	11-108	10-234	9-427	8-734
17	47	13-172	12-481	11-309	10-312	17	57	10-803	9-923	9-132	8-490
18	48	13-081	12-264	11-174	10-170	18	58	10-444	9-614	8-980	8-238
19	49	13-307	12-125	10-921	10-009	19	59	10-101	9-318	8-632	8-000
20	50	12-485	11-769	10-727	9-833	20	60	9-782	9-043	8-394	7-760
21	51	12-463	11-424	10-499	9-640	21	61	9-489	8-800	8-184	7-549
22	52	12-323	11-212	10-261	9-439	22	62	9-218	8-558	7-973	7-427
23	53	11-981	10-924	10-017	9-231	23	63	8-933	8-311	7-780	7-260
24	54	11-632	10-629	9-786	9-016	24	64	8-634	8-061	7-528	7-000
25	55	11-274	10-325	9-505	8-790	25	65	8-329	7-783	7-286	6-800
26	56	10-911	10-013	9-257	8-558	26	66	8-012	7-503	7-047	6-600
27	57	10-541	9-685	8-970	8-316	27	67	7-683	7-210	6-785	6-400
28	58	10-176	9-380	8-684	8-073	28	68	7-348	6-908	6-514	6-150
29	59	9-806	9-083	8-427	7-847	29	69	7-004	6-600	6-238	5-900
30	60	9-429	8-789	8-196	7-648	30	70	6-652	6-291	5-954	5-640
31	61	9-059	8-507	7-905	7-470	31	71	6-302	5-980	5-680	5-370
32	62	8-687	8-228	7-706	7-206	32	72	5-956	5-684	5-379	5-110
33	63	8-312	7-951	7-501	7-117	33	73	5-613	5-388	5-123	4-880
34	64	8-434	7-872	7-372	6-924	34	74	5-273	5-137	4-894	4-671
35	65	8-140	7-614	7-143	6-721	35	75	4-938	4-893	4-706	4-480
36	66	7-834	7-343	6-803	6-507	Age.					
37	67	7-517	7-061	6-551	6-280	15	80	9-838	9-103	8-446	7-887
38	68	7-191	6-769	6-308	6-043	16	81	9-565	8-857	8-233	7-700
39	69	6-856	6-476	6-113	5-793	17	82	9-287	8-617	8-026	7-500
40	70	6-513	6-157	5-832	5-535	18	83	9-006	8-373	7-816	7-300
41	71	6-168	5-841	5-542	5-280	19	84	8-719	8-120	7-593	7-100
42	72	5-846	5-544	5-269	5-017	20	85	8-411	7-856	7-361	6-900
43	73	5-536	5-278	5-023	4-790	21	86	8-099	7-581	7-118	6-700
44	74	5-249	5-042	4-780	4-589	22	87	7-773	7-292	6-860	6-471
45	75	5-089	4-850	4-550	4-377	23	88	7-438	6-988	6-581	6-200
Age.						24	89	7-091	6-680	6-300	5-950
15	80	13-131	11-782	10-822	9-913	25	90	6-736	6-338	6-017	5-700
16	81	12-794	11-603	10-580	9-717	26	91	6-389	6-024	5-716	5-400
17	82	12-459	11-325	10-356	9-520	27	92	6-042	5-706	5-418	5-150
18	83	12-122	11-043	10-119	9-318	28	93	5-709	5-412	5-133	4-900
19	84	11-780	10-755	9-875	9-109	29	94	5-384	5-108	4-888	4-650
20	85	11-429	10-458	9-621	8-881	30	95	5-063	4-804	4-723	4-500
21	86	11-072	10-154	9-359	8-663	Age.					
22	87	10-706	9-840	9-047	8-428	15	96	8-458	7-697	7-388	6-980
23	88	10-342	9-526	8-714	8-180	16	97	8-142	7-418	7-131	6-750
24	89	9-984	9-225	8-551	7-959	17	98	7-817	7-331	6-984	6-600
25	90	9-633	8-943	8-280	7-744	18	99	7-485	7-034	6-680	6-300
26	91	9-280	8-684	8-020	7-535	19	100	7-141	6-723	6-350	6-000
27	92	8-934	8-447	7-775	7-327	20	70	6-790	6-417	6-061	5-700
28	93	8-587	8-198	7-526	7-117	21	71	6-437	6-176	5-738	5-400
29	94	8-243	7-943	7-274	6-907	22	72	6-083	5-962	5-469	5-150
30	95	7-894	7-688	7-010	6-691	23	73	5-771	5-475	5-206	4-900
31	96	7-542	7-423	6-775	6-579	24	74	5-463	5-231	4-971	4-700
32	97	7-182	7-146	6-528	6-351	25	75	5-163	5-010	4-778	4-500
33	98	7-288	6-957	6-408	6-116	Age.					
34	99	6-932	6-554	6-164	5-868	15	76	8-818	8-433	8-094	7-700
35	70	6-580	6-242	5-910	5-620	16	77	8-452	8-108	7-778	7-400
36	71	6-231	5-916	5-611	5-334	17	78	8-108	7-784	7-490	7-150
37	72	5-914	5-607	5-327	5-071	18	79	7-759	7-500	7-208	6-900
38	73	5-609	5-306	5-068	4-832	19	74	7-424	7-249	6-967	6-700
39	74	5-307	5-076	4-838	4-619	20	75	7-090	6-942	6-667	6-400
40	75	5-115	4-872	4-650	4-446	21	76	6-758	6-637	6-381	6-150

Principal Works on Annuities and Assurances.—Bailey's *Doctrine of Life Annuities and Assurances*, 1813. Milne's *Treatise on the Valuation of Annuities and Assurances, and Construction of Tables of Mortality*, 1835. Corbair's *Doctrine of Compound Interest*, 1825. *Article Annuities* in *Encyclopædia Britannica*. Jones's *Treatise on Annuities and Reversionary Payments*, published by the Society for the Diffusion of Useful Knowledge, a work chiefly distinguished for the numerous tables which it contains, including a series computed by Barlett's method. See also other works referred to in this article, and in that on *Insurance on Lives*.

INVOICE, a mercantile document containing a description of goods sold or consigned, with an account of the charges, if any, that are made against the buyer or consignee. Inland invoices are generally made out in the form of bills of parcels, containing in the title the place, date, and names of the parties. Shipping or exportation invoices are usually headed with a short account of the goods, the names of the vessel and captain, the port of destination, the name of the consignee, and a specification of the account on which the goods are sent.

Pro formâ invoices are statements of supposititious transactions, sometimes made out in order to show the ordinary allowances and charges on goods, and consequently, with the prices, to exhibit the estimated net proceeds.

IODINE, a substance obtained by a chemical process from kelp, from soap-makers' black ash, or from the brown residuary kelp-liquor of the soapboilers. It is soft and friable, of a blueish-black colour, and metallic lustre. Sp. gr. 4·946. It is extremely volatile. Its smell resembles that of diluted chlorine; its taste is acrid. Iodine was discovered in 1812 by M. Courtois of Paris, and its compounds are as yet employed principally in medicine, where it is used in glandular diseases, and as an alterative. Mr Brando is of opinion, however, that from the rich colours of some of its metallic combinations, it might be employed in calico-printing.

IONIAN ISLANDS (UNITED STATES OF THE), a republic, under British protection, situate on the W. and S. coasts of Greece, consisting (besides islets) of seven principal islands; namely, Corfu, Cephalonia, Zante, Santa Maura, Ithaca, Cerigo, and Paxo. Area, 1041 sq. miles. Population in 1839, 221,057. The government is vested in a high commissioner residing at Corfu, who represents the sovereign of Great Britain,—a legislative assembly of 29 members elected by the *synclista* or nobles, and 11, styled *integral*, appointed by the commissioner,—and a senate composed of 5 members elected by the legislative assembly, and a president nominated by the commissioner.

These islands are almost all of an irregular form; their coasts are rugged and indented; and barren rocks and heath-covered hills form nearly half their whole contents. The climate is mild, but subject to sudden changes; hurricanes and earthquakes are frequent, especially in Zante, and the sirocco occasionally makes the heat oppressive. The land is mostly in the hands of small proprietors, who let it out on the *métayer* system to tenants paying half the produce as rent. Being more favourable to grape cultivation than to the raising of corn, upwards of three-fourths of the surface available for tillage is laid out in currant grounds, vineyards, and olive-plantations, which are generally well managed. Cephalonia and Zante, however, are the only islands in which cereals are grown, with the exception of Ithaca and Santa Maura, in which a few acres are employed for that purpose. Oil and wine are chiefly the produce of Corfu, but in all the islands the olive-tree is more or less cultivated. The currants are gathered in the middle of September; the olives in December. The quantity of bread-corn grown is equal to only one-fourth of the consumption.

In Corfu and Zante, soap is made to some extent; at the latter also, silk, gros-de-naples, and handkerchiefs are woven. In other respects manufactures, properly so termed, can scarcely be said to exist. The wives of the peasants, however, spin and weave a coarse kind of woollen cloth, nearly sufficient for the use of their families; and some coarse blankets and linens are also made.

The imports into the Ionian Islands, on an average of the three years ending 1839, amounted to £557,099; about one-third of which consisted of wheat, brought mostly from Odessa; the chief other articles were Indian corn, live-stock (from Albania and Greece), colonial produce, British manufactures, and dried fish. Of exports, the annual amount, on an average of the same three years, was £334,356; consisting mostly of currants (17,746,648 lbs., £229,299) sent almost wholly to Great Britain; with about 30,833 barrels (each of 16 gallons) of olive oil, and 1,782,770 lb. soap; the other articles were of very trifling value.

The amount of shipping possessed by the islanders is considerable; much of it is employed in the Levant trade. Of 265,253 tons entered inwards the ports of the different islands in 1839, no fewer than 127,356 tons were Ionian; the remainder was chiefly Greek, Austrian, British, and Russian.

Corfu, situated in the island of that name, in lat. 30° 36' N., long. 19° 54' E., is the principal port and seat of government. Pop. 16,000, of whom 4000 are Jews. The town is very strongly fortified. The harbour, which is one of the best in the Levant, and has a depth of about 80 feet, is formed by the Island of Vido, the rocks called Condilonisi, the Lazaretto island, and the New Fort.

The chief other ports are Zante, in the island of the same name, and Argostoli, in Cephalonia.

MEASURES, WEIGHTS, MONEY, DUTIES, &c.

Measures and Weights.—The Imperial system was introduced in 1828, when the stadio of 40 stamaco was made equal to 1 Imp. furlong; the barrel to 16 Imp. gallons, or 128 dicatoli or pints; the kilo, corn measure, to 1 Imp. bushel; the libbra sottile to 1 lb. troy; the libbra grossa to 1 lb. avoird.; and the talanto to 100 lbs. avoird.

The chief old measures are the Zante cloth braccio = 27·18 inches; and silk braccio = 25·37 inches; the Zante barile = 14·68 Imp. galls.; the Corfu barile = 15 Imp. galls.; the Corfu moggio, grain measure, of 8 misure = 4·63 Imp. bushels; the moggio, land-measure, of 8 misure, or 24 sappade = 2 Imp. acres, 1 rood, 24 perches; the quintal of 44 oke = 123·15 lbs. avoird.; and 16 oke = 28 lbs. avoird.

Money.—Accounts are kept in taleri or dollars, each of 100 oboli; also in British money; and in

some places in Turkish piastres of 40 paras. The circulating medium is composed of Spanish, American, Austrian and Venetian dollars, the first being reckoned at 104 oboli, the two last at 100 oboli; Spanish doubloons; British silver coins; and Ionian currency, consisting of silver threepences, and copper pieces for $\frac{1}{4}$ th and $\frac{1}{8}$ th of a penny. No paper money is in circulation.

Exchange on London fluctuates from about 50½d. to 51½d. per Spanish dollar.

Duties on exports: oil and currants, 19½ per cent.; wine, 6 per cent.; soap, 8 per cent., *ad valorem*. The import duty is regulated according to a tariff, non-enumerated articles in which pay 7 or 8 per cent., *ad valorem*.

The Revenue amounts to about £160,000, derived chiefly from export duties and customs; the direct taxes are trifling.

These islands, after many changes, became, in the 15th century, subject to the dominion of Venice. After the downfall of that republic, they were the cause of frequent contention among the Mediterranean powers, whose mutual jealousies led to their being formed, in 1815, into an independent state, under the protection of Great Britain, by whom they are garrisoned with a force of about 3000 men.

IPECACUANHA, a medicinal root derived from several plants growing in S. America. The best is the annulated, yielded by a small shrubby plant (*Cephaelis Ipecacuanha*), found in moist situations in Brazil and New Granada. It occurs brown, red, and gray, or grayish-white. This kind, sometimes called Brazilian or Lisbon ipecacuan, is exported from Rio Janeiro in bales and barrels. The root is in short pieces, of the thickness of a goose-quill, with numerous circular depressions or clefts, and much twisted; and having a central woody fibre, surrounded by a cortical part, in which its virtues chiefly reside: the larger, therefore, its relative proportions the better.

Another kind, black and weaker, the product of the *Psychotria emetica*, a native of Peru, is sometimes exported from Carthagena.

The primary effect of ipecacuanha is that of stimulating the stomach. If the dose be sufficiently large it acts as an emetic, a purpose for which it is much employed. It was first imperfectly described by Piso in 1648; but it did not come into general use till about 1686, when Helvetius, under the patronage of Louis XIV., introduced it into practice.

IRIDIUM, a rare metal discovered in 1803 by Mr Tennant. It is heavy, brittle, whitish, and when carefully polished, resembles platinum. One of its most remarkable characters is the difficulty with which it is acted upon by acids.

IRON (Dan. *Iern*. Du. *Yser*. Fr. *Fer*. Ger. *Eisen*. It. & Por. *Ferra*. Rus. *Scheleso*. Sp. *Hierro*. Sw. *Iern*) is at once the most diffused, the most abundant, and the most important of the metals. It has a peculiar gray colour, and strong metallic lustre, which is susceptible of being heightened by polishing. In ductility and malleability it is inferior to several metals, but exceeds them all in tenacity. At common temperatures it is very hard and unyielding; and it is one of the most infusible of the metals; but this disadvantage is counterbalanced for all practical purposes by its possessing the property of *welding* in high perfection. Fusing point, 3479° Fahr. Sp. gr. 7.78. When exposed to the atmosphere it absorbs oxygen, and becomes an oxide, or *rusts*. It is attracted by the magnet, and may itself be rendered permanently magnetic. Its uses are almost innumerable. "Iron," says Dr Ure, "accommodates itself to all our wants, our desires, and even our caprices; it is equally serviceable to the arts, the sciences, to agriculture, and war; the same ore furnishes the sword, the ploughshare, the spring of a watch or of a carriage, the chisel, the chain, the anchor, the compass, the cannon, and the bomb: it is a medicine of much virtue, and the only metal friendly to the human frame." And it was forcibly remarked by Locke, that he who first made known the use of iron "may be truly styled the Father of Arts and Author of Plenty."

This metal is found *native* in very small quantities; but its ores are numerous, and widely diffused. The principal are the following:—The red oxides of iron included under the name of red hæmatite; the brown hæmatite of mineralogists; the black oxide, or magnetic iron ore; and protocarbonate of iron, either pure or in the form of clay iron ore. The three former occur most abundantly in primary districts, and supply the finest kinds of iron,—as those of Sweden and India; while clay ironstone, from which most of the British iron is extracted, occurs in secondary deposits, and chiefly in the coal formation; being found in layers in slaty clay between the beds of coal.

Iron is divided into two distinct qualities; *pig* or cast iron, the metal in its crudest state, and malleable or *bar iron*, the same when freed from impurities by an extension of the processes requisite for the production of the first kind.

Pig or Cast Iron.—The first process is that of *roasting* or calcining the ore in a kiln, in order to drive off the water, sulphur, and arsenic, with which it is more or less combined in its native state, an operation by which it loses one-sixth part of its weight. The roasted ore is then subjected to the process of *smelting*, by which it is reduced into a metallic state by means of fusion. This operation is conducted in a blast-furnace, charged from the top with certain proportions of iron-ore, of coke or coal, and of limestone; the use of the last being to act as a flux to the ore, and promote its fusion. In order to produce the degree of heat necessary for the fusion of the ore, its intenseness is promoted by the forcing in of a current of air, for which purpose the agency of steam is now commonly employed. The fluid metal is allowed to run out from time to time, and conducted into moulds formed in the sand of the smelting-house floor, for the various things made of cast-iron,—from vast beams, wheels, and cylinders of steam-engines, to the smallest articles of domestic use,—or it is conveyed into channels for the *pigs*, the form in which cast-iron is sold as a raw material, and the produce of which from the ore averages about 60 per cent. The term "pig-iron" was given by the workmen: the metal is run off into a main channel which they call the *sow*, and the bars at right angles to it they liken to pigs sucking the teats of the sow.

The quality of pig-iron depends not only upon the nature of the ore, but also upon that of the fuel. The principal subdivision is into foundry-iron and forge-iron.

Foundry-iron is used in the state of pigs for casting; it is of three qualities, distinguished by the numbers 1, 2, and 3:—

No. 1 contains a large proportion of carbon which it has acquired from the coke used for smelting; it is soft and very fluid when melted, so that it will mould into the most delicate forms.

No. 2 contains a smaller proportion of carbon than No. 1; it is also harder, closer grained, and of more regular fracture, more refractory in the furnace, and does not run so freely when melted; but being harder and stronger, it is preferred for purposes where strength and durability are required in preference to delicacy of form.

No. 3, sometimes called dark-gray iron, the only one of the three kinds fit for conversion into bar-iron, varies in the same direction as No. 2 from the qualities of No. 1, but in a greater degree; it is used for heavy work, where it has to bear great strains, and is exposed to constant wear.

Forge-iron is also divided into three qualities,—*bright*, *mottled*, and *white*, appellations which are indicative of their appearance. They all contain carbon, in proportions less than foundry-iron, and diminishing in the order in which they are here mentioned. Bright iron is used extensively for large castings; but the others are applicable only to the manufacture of bar-iron; being from their nature too thick when melted to run into the shape of the mould, and when cold too weak and brittle to be serviceable as cast-iron, even if the other objection did not exist.

BAR, or MALLEABLE IRON.—In order to convert pig into bar iron, it is first refined, an operation chiefly conducted in the “puddling furnace,” by exposure to a strong heat, while a current of air plays upon its surface. By this means any undecomposed ore is reduced, earthy impurities rise to the surface as slag, and carbonaceous matter is burned; and the more complete the separation from these, the better is the iron. As the purity of the metal increases, its fusibility diminishes, until at length, though the temperature continue the same, the iron becomes solid. It is then, while still hot, beaten under the “forge hammer,” or (as generally in this country) subjected to the operation of rolling, by which its particles are approximated, and its tenacity greatly increased. By these several processes the metal is converted from a fusible, hard, and brittle substance, to a tough and elastic bar, which is hardly fusible, and which, from its property of yielding and altering its form under the hammer, has acquired the name of malleable iron. In trade, three qualities are distinguished,—common iron, best, and best best, or chain-cable iron.—(*Manufacture of Iron*, Lib. of Useful Know.; *Turner's Chemistry*, &c.)

Bar-iron is converted into *steel* by being exposed to the action of heat, in contact with carbonaceous matter, which penetrates its substance, and is *tempered* when red-hot by immersion in water, by which it becomes harder, more elastic, and brittle.

Iron is believed to have been made in Britain on a small scale in the time of the Romans; but we have little authentic information respecting the progress of the trade until we arrive at a comparatively recent period. Down to the 17th century the ore was entirely smelted with charcoal; and there was a considerable number of furnaces in those districts where wood and iron ores were plentiful,—particularly the Weald of Kent, Surrey, and Sussex; but in course of time, wood-fuel becoming scarce, the trade was threatened with decay. Many attempts were made, during the 17th and early part of the 18th century, to retard the decline by the use of pit-coal, but without effect; the simple hand-worked bellows, or the more powerful water-movement, which produced a sufficiency of blast for charcoal, having little effect upon coal; and the number of furnaces, which in 1619 was estimated by Lord Dudley (who in that year obtained a patent for smelting with coal) at 300, fell off towards the middle of the 18th century to 59. Science, however, came to the rescue of one of our greatest staple manufactures. In 1760, Smeaton erected a cylinder blasting-machine for the Carron Company, which, after some improvements, enabled the same furnace that formerly yielded only 10 or 12 tons weekly, to produce 40. Shortly after this, Watt's improvement of the steam-engine, and its application to iron-works, not only revived the trade, but enabled it to distance all foreign competition. Ores that formerly could not be worked with profit, either from their inherent intractableness, or from the small proportion of iron which they contained, were now advantageously submitted to the furnace, and more metal was extracted from the richest ores. Various improvements also took place in the manufacture of bar-iron, particularly by the substitution of hammering machinery for hand-labour, by Mr Cort's invention of “puddling” (patented 1783)—the great distinction of coal-made iron, and also by that gentleman's patent (1784) for the rolling of iron,—while at the same time the extent of the iron-works were greatly enlarged, and improvements made in the form of the furnaces. Of recent inventions, by far the most important is the substitution of the *hot* for the cold blast, by artificially heating the currents of air impelled into the furnace. This discovery of Mr Neilson of the Clyde Iron-Works, operates by obtaining a larger quantity of metal with a less degree of fuel. In 1829, with cold air, 1 ton of iron consumed 8 tons 1 cwt. of coal; in 1833, with hot air, the same quantity of iron was procured with only 2 tons 5 cwt. The nature both of the coal and the ore, however, is said to have much to do with this discovery, as in the south the gain in the consumption of fuel has not been so great; and a prejudice exists among the English iron-masters against the quality of the hot-blast metal.

The result of these inventions and improvements presents some of the most extraordinary facts in the history of manufactures, excepting perhaps the cotton-trade. In 1740, the quantity of iron made in England and Wales had sunk to 17,350 tons; in 1788, after the cylinder invention, the total annual produce was

68,300 tons. By 1796 it was 108,793 tons, or, including Scotland, 124,879; the iron trade in that country having more than doubled in eight years. In 1802, the annual produce of Great Britain was estimated at 170,000 tons; in 1823, it had grown to 442,066 tons; and in 1828, to 702,584 tons (*Porter's Progress of the Nation*, sec. 2, ch. 6). But, owing to the recently extended applications of iron to railways, machinery, gas-apparatus, roofs, columns, windows, and furniture, this rapid advance was nothing to its progress in the next decade. "In 1835," says Sir John J. Guest, an experienced ironmaster, "it was estimated at about a million of tons; in 1836, it was estimated at 1,200,000 tons; and the estimate made by a very intelligent person who went round the works in 1839 was 1,512,000 tons, which is rather increasing"* (*Report on Import Duties*, 1840. *Evidence*, Q. 392). This increase was proportionally greatest in Scotland, where such was the expansion of the iron-trade, that the produce, though only 37,700 tons in 1828, was, according to a report laid before the Glasgow Chamber of Commerce, augmented in 1840 to 250,000 tons, a quantity greater by 47 per cent. than the total produce of all Britain in 1802.

The price of iron has been subject to very great fluctuations,—especially of late years. In September 1824, the current price of common bars at the shipping port was £9 a-ton; in March 1825, a period of great speculation, it rose to £14; but by March 1830, owing to the extended production consequent on this high rate, it fell to £5, 5s. a-ton. Since that period, in consequence of the increased demand for railways and other purposes, the price has risen considerably, and at present (February 1842) it is quoted, in bars, at £6, 15s. a-ton; that of pig being £4. Taking the quantity stated above, 1,500,000 tons, as the present annual produce, and applying this last price of £4, gives the value in pig at £6,000,000; to which, adding £3,000,000 as the cost of converting seven-tenths thereof (the common estimate) into bars, bolts, rods, sheets, and the other forms of wrought iron, makes the total annual value of the manufacture £9,000,000.

The great seats of the trade are,—in Staffordshire, near Birmingham, around Walsall, Bilston, and Dudley;—in S. Wales, around Merthyr Tydvil, in Glamorganshire, and in the Forest of Dean on the border of Wales;—in Shropshire, in and around Colebrook Dale. There are besides many works in Yorkshire, Lancashire, and Derbyshire. In Scotland, the works are almost all in the neighbourhood of Glasgow and Falkirk; the chief are those of Calder, Gartsherrie, Clyde, Dundyvan, Monkland, and Carron. In Ireland there are no iron-works of any importance.

The exportation of British iron has increased in a degree corresponding to its production, notwithstanding the high duties with which it is loaded in almost all foreign countries. In 1820, the quantity of wrought and unwrought iron and steel shipped was 85,066 tons, of the declared value of £1,131,788; in 1839, 247,912 tons, and value £2,719,824; and in 1840, 268,328 tons, value £2,524,859: in 1841 the value was £2,867,950. The exportations in 1839 consisted of 124,138 tons bar-iron, about one-half of which was sent to the United States, and the remainder chiefly to Italy, Holland, India, and the colonies; 12,315 tons in bolts and rods, sent to Portugal, Italy, Germany, and India; 43,460 tons pig-iron, shipped mostly to the United States, France, and Holland; 10,837 tons cast-iron, chiefly to the United States and British colonies; 777 tons wire to Belgium, Germany, United States, &c.; 3108 tons of anchors and grapnels, 11,225 tons hoops, 7195 tons nails, and 30,334 tons of all other sorts of wrought-iron (except ordnance), chiefly sent to the colonies, India, United States, Holland, Germany, and S. of Europe; 549 tons old iron; and 3974 tons unwrought steel, mostly to the United States.

The superiority of Great Britain above all the other countries of the world, in the production of iron, does not extend beyond quantity and cheapness; in point of quality the British iron is greatly inferior to that of Sweden, Norway, Russia, India, and other countries, which, besides possessing a superior ore, have the means of converting it into metal by the aid of charcoal, an agent preferred to coal, at least in the preparation of bar-iron. Hence a preference is given to foreign iron in the manufacture of cutlery; and about 20,000 tons are annually imported for that purpose, mostly at Hull, for transmission to Sheffield. It is principally brought

* In Mr Scrivenor's History of the Iron Trade, the number of furnaces in blast, and estimated annual make of iron in the different districts in 1839, was stated as follows:—South Wales and Forest of Dean, 125 furnaces, 532,480 tons; South Staffordshire, 108 furnaces, 338,730 tons; North Staffordshire, 10 furnaces, 28,600 tons; Shropshire, 24 furnaces, 86,060 tons; Yorkshire, 31 furnaces, 89,960 tons; Derbyshire, 13 furnaces, 37,440 tons; North Wales, 12 furnaces, 28,600 tons; Newcastle-on-Tyne, 5 furnaces, 11,440 tons; Scotland, 50 furnaces, 195,000 tons. Total, 578 furnaces, 1,347,790 tons.

Sweden, where the bar-iron is prepared by hammering instead of rolling ; best being that made from the magnetical ore of the celebrated mines of *Amora*,* near Upsala ; and Taberg, near Lake Wetter. Except for the purposes of Great Britain has not been an importing country of iron since 1790.

The present annual produce in foreign countries, in so far as it is known or even estimated, may be stated as follows :—France possesses 475 furnaces, which produce 347,700 tons of cast-metal (*fonte*), worth £2,520,000 ; and 1500 pig furnaces, which produce 224,100 tons of malleable iron (*gros fer*), worth £1,000 (*Report of Minister of Commerce*, 1841) : Sweden, 100,000 tons : United Kingdom (in 1837), 250,000 tons : Belgium (in 1837), 135,000 tons, from 89 furnaces : Prussia, 99,427 quintals, from 19 furnaces : Styria, 20,000 tons : Spain, 8000 tons.—*Senior's History of the Iron Trade.*)

IRON MANUFACTURES, OR HARDWARE AND CUTLERY. These branches of industry have been in part described in the preceding pages. The heavier and coarser articles are mostly cast at the founderies in S. Wales and other parts ; but the smaller and finer articles are principally made at Birmingham and Sheffield, the two greatest seats in the world of the manufactures from iron and steel.

Birmingham lies in the N. W. corner of Warwickshire, at a moderate distance from the Staffordshire mines,—a proximity which has rendered it, to a certain extent, the seat of iron manufactures from a remote time. These, however, were comparatively trifling until after 1790, when the discovery of the improved methods of smelting with coal, and the construction of canals from the town towards the principal points of commercial distribution, caused such a rapid advance of prosperity that the population which in 1789 was only 53,735, grew in 1801 to 73,670 ; in 1821 to 106,722, and in 1841 to 190,467. The manufacture now comprehends the making of firearms, swords, bayonets, steam-engines, anvils, kitchen-furniture, tools, locks, hinges, buttons, harness, tea-urns, chains, wire, and in short every kind of iron work, down to needles, pins, and the minutest article of a man's toilet. Of late years, the manufacture of cast-iron goods has been rapidly growing and extending. Formerly the principal castings were heavy kitchen-ware ; but increased care in the selection of the metal, and a desire to produce cast forms at a cheap rate, has led to cast-iron articles being fabricated of every size, and of light and tasteful patterns, which, when coloured by bronzing, equal the more expensive brass wares ; and in hollow vessels, such perfect thinness and lightness is attained, that the use of beaten copper is almost dispensed with (*Pen. Cyclop.*, art. BIRMINGHAM). Besides iron and steel goods, the town is distinguished for the manufacture of brass, plated and japanned wares, toys and other articles. Of the latter the production is so immense, that Birmingham was called by Burke the “toy-shop of Europe.” The production of so many and minute articles necessarily led to an almost inconceivable subdivision of employments ; while the amount of business, of which some of these trifling articles form the subject, is wonderful. In 1824, Mr Osler, a manufacturer, stated to a committee of the House of Commons that he had received a single order for £500 worth of dolls' heads. The manufacture of iron-wares, however, forms the great staple of Birmingham, as well as the district of which it is the metropolis, including the tract to the N. W., which embraces the towns of Dudley, Wolverhampton, Bilston, Walsall, Wednesbury, and Stourbridge.

Sheffield, in the W. Riding of Yorkshire, has been distinguished from a remote time for her cutlery ; though, as in the case of Birmingham, it is only since 1790 that the manufacture has risen into importance. The population of the town and neighbourhood, which in 1801 was 45,776, grew in 1821 to 65,179, and in 1841 to 110,891. Examples are knives of every variety, razors, surgical instruments, files, scissors, saws, and all sorts of edge-tools ; their quality being such as to lead to being deservedly held in the highest estimation throughout the world. The fusion of iron into steel is also carried on to a greater extent in this town than in any other part of the kingdom. The manufactures of Sheffield likewise embrace cast-iron and fire-irons ; also white-metal, and silver-plated articles.

The chief other localities are, Manchester and Glasgow, for machinery ; fine tools made at Warrington and Prescott, in Lancashire ; needles and fish-hooks at Litch, in Worcestershire ; curriers' knives at Cirencester, in Gloucestershire ;

The produce of the Dannemora mine (about 4000 tons annually) is almost wholly sent to the docks of Hull, where it is called “Oregrund iron,” a name derived from the port of ship-

The first marks are hoop L, which sells at £40 a-ton ; and OO, and CL, £39. The best Swedish mark, CCND seldom brings more than £20 a-ton.

fine fowling-pieces and pistols in the metropolis, where also the cutlery business is carried on extensively, though most of the articles bearing the name of a London vender are really made at Sheffield.

There are not many large capitalists in the hardware or cutlery manufactures. At Birmingham, most of the factories or workshops are on a comparatively small scale; and a large portion of the articles are made by artizans who work in their own houses. In Sheffield, this is even still more the case; a cutler being not unfrequently a journeyman one year and a master another, and conversely. In both places, the articles are generally purchased from the manufacturers by wholesale ironmongers, who dispose of them to retailers for home consumption, and to merchants for the export trade.

The extension of these branches of industry has been accompanied, or more properly has been occasioned, by improvements in the methods of production, which have lowered the prices of goods in a manner calculated to insure a continuance of prosperity to the manufactures by extending the number of consumers. This was more particularly the case between 1812 and 1832. Mr Babbage (*Economy of Manufactures*, § 148) has shown that during these 20 years, in a pretty extensive list of articles, the reduction in price on some—as anvils, candlesticks, and bed-screws, was from 40 to 45 per cent.; on others, as fireirons, and such like, it was 53 per cent.; on some kinds of locks, 80 per cent.; while, in a separate table, the reduction on several articles is shown to have considerably exceeded 100 per cent. None of the goods having ever been subject to duty, no means exist whereby to judge accurately of the extent of the iron-manufactures; but looking to what has been stated in the preceding article, the annual value of all sorts of iron, and hardware and cutlery articles produced in Great Britain, may be safely estimated at from £20,000,000 to £25,000,000.

The reduction in the cost of these commodities has occasioned a great increase in the number of foreign customers. The quantity and declared value of hardware and cutlery exported (exclusive of pig and wrought iron), was in 1820, 6697 tons, £949,085; in 1830, 13,269 tons, £1,410,936; in 1835, 20,197 tons, £1,833,043; in 1836, 21,072 tons, £2,271,313; in 1837, 13,371 tons, £1,460,807; in 1838, 15,295 tons, £1,498,327; in 1839, 21,176 tons, £1,828,521; and in 1840, 14,995 tons, £1,349,137: in 1841 the value was £1,625,191. About one-half is sent to the United States; the remainder to the colonies, India, Germany, and indeed most countries with which we have commercial relations. Of late, the exports have been somewhat checked by foreign competition, chiefly that of Belgium and Germany.

IRONWOOD, the product of an evergreen tree (*Sideroxylon*), remarkable for the hardness and weight of its timber, which sinks in water. There are several species found in the W. Indies, Africa, America, E. Indies, and Australia. The smooth ironwood tree (*S. incense*) is a native of the Cape of Good Hope.

ISINGLASS (Fr. *Colle de poisson*. Ger. *Hausenblase*. It. *Cola di pesce*. Rus. *Karluk*), a gelatinous substance chiefly formed of the dried sounds of fish; the best is made in Russia, and is obtained from the sturgeon. It should have neither taste nor smell, and be entirely soluble in warm water, but this is seldom the case, in consequence of the presence of some albuminous parts. It is employed in making medicinal jelly, blancmanges, court-plaster, and as a clarifier; when concentrated and dried, it forms a choice kind of glue.

IVORY (Fr. *Ivoire*. Ger. *Elfenbien*), the material composing the tusks of the elephant, is extensively used for knife-handles, mathematical and musical instruments, plates for miniatures, billiard-balls, and toys. The finest ivory is produced from the tusks of the male Asiatic elephant (*Elephas Indicus*) termed Dauntehah; and specimens weighing 150 lbs. are sometimes exported from Pegu and Cochin-China. In trade, however, they are seldom met with above 70 lbs. in weight; and do not weigh beyond 50 lbs. in Tiperah, which produces thousands of elephants, and from whence, as well as the adjoining province of Chittagong, the animals for the service of the East India Company are generally taken. The importations into this country of tusks are chiefly from Ceylon and the west coast of Africa; the total annual amount is about 5000 cwts., of which fully four-fifths are entered for home consumption. In London they are classed into six sorts:—1st, Those weighing 70 lbs. and upwards; 2d, from 56 to 70 lbs.; 3d, from 38 to 55 lbs.; 4th, from 28 to 37 lbs.; 5th, from 22 to 27 lbs.; 6th, scrivelloes, consisting of the smallest teeth and fragments. In February 1842, the prices of these varied according to size and quality from £10 to £30 per cwt. They should be chosen large, straight, solid, and white; free from flaws or decay, and not very hollow in the stump.

tusks or teeth of the seahorse and hippopotamus are also used as ivory. Matter, procured in Africa, are harder and whiter than those of the elephant, do not turn yellow so soon. Fossil ivory from the tusks of the mammoth or mastodon is that principally used by the Russian turners; it is found plentifully in a high state of preservation in the Laichovian isles, and on the shores of the Bering Sea.

DRY-BLACK, a kind of animal charcoal, procured by the incineration or distillation of ivory or the horns and bones of animals. It is used extensively in arts.

J.

BLACKWOOD, the timber of a species of BREAD-FRUIT-TREE.

JADE (CHINESE), a mineral referred by Jameson to the species *prehnite*, which is highly valued in China, where it is termed *yu*. The finest is found in Yun-nan, but the greater number are brought from Ele and other districts in Tartary. Colour is greenish white passing into grayish green, and dark grass-green; it is semi-transparent and cloudy; fracture splintery; and splinters white. Sp. gr. 3.4.

It is peculiarly difficult to cut; yet the Chinese take pride in fashioning it into various shapes, such as cups, saucers, bracelet clasps, buckles, and even mirrors; and it holds the chief place "in that world of precious trifles which the Chinese and Tartar ladies twine in their hair." Some of these articles require the work of nine or ten years; but nothing can exhaust the patience of the *yu-tsiang*, makers in *yu*. The gem presented by the emperor to Lord Macartney was of *jade*, worked in the form of a sceptre.—(*Abel's Journey*, p. 132-134, &c.)

JALAP (Fr. Jalap. Ger. Jalapp. Sp. Jalapa), the root of (*Convolvulus*) a plant indigenous to Mexico. This root often weighs 50 lbs., but is divided into sections, and in commerce occurs in dried pear-shaped masses, which when fresh are hard, resinous, with a brown shining fracture, and a nauseous smell and taste.

It is often adulterated with portions of the root of white bryony, but these are distinguished by their lighter colour and less compact texture. Dried pears are sometimes substituted for it. The excellence of jalap depends on the quantity of resin it contains, as this is the part which composes the well-known effect of the purgative. The annual consumption in this country is about 50,000 lbs. chiefly imported from Vera Cruz.

MAICA. [WEST INDIES.]

JAPAN, an empire in the eastern extremity of Asia, consisting of a very large island, Nippon, about 800 miles long and 80 broad; three smaller islands, Kiusiu, Izu, and Jesso; and numerous islets. Area, 260,000 square miles. Population estimated at 25,000,000. Government, a pure despotism, but with this peculiarity, two sovereigns are acknowledged,—the Dai-ri, a spiritual sovereign, whose residence is Miaco, in Nippon, pop. 500,000; and the Cubo, a temporal monarch, whose capital is Jeddo, also in Nippon, pop. 1,200,000. The Cubo, although he pays homage to the Dai-ri, is in possession of all the real power.

The islands are intersected by chains of mountains, several of which are volcanic, and some so high as to be covered with perpetual snow. Many of the valleys are fertile, though the soil is not generally so; but the ingenuity and industry of the inhabitants have rendered even the most barren lands productive. Rice forms the principal object of culture; wheat, barley, and other grains are raised in smaller quantities. The chief natural riches are those which belong to the mineral kingdom. The precious metals, particularly gold, exist in considerable quantity; and copper is so much plenty as to form nearly the entire basis of the foreign commerce of the country; iron is abundant; and there are also ambergris, naphtha, pearls, with agates and other precious stones; iron is rare. The Japanese, in point of civilization, are scarcely inferior to the Chinese, and they have made nearly equal progress in manufactures. The articles in which they excel, are lacquered or japanned ware, porcelain, and silk, linen, and cotton cloths. The black varnish employed in their lacquered ware is obtained from the *rhus vernix*, or varnish tree, one of the most remarkable of their vegetable productions.

The policy of its government, Japan is completely insulated from the rest of the world; and the people are wholly unacquainted with shipbuilding and navigation; having no vessels except small boats. Considerable intercourse took place with the Portuguese in the sixteenth century, owing chiefly to religious animosity, the settlers were massacred; and since 1638 all foreigners have been jealously excluded, except the Chinese and Dutch. The Chinese trade employs about 10 junks, principally from Ning-po and Amoy, which make two voyages yearly; exporting sugar, English woollens, and other commodities, for bar-copper, lacquered ware, and silk. The Dutch trade is restricted to two vessels annually to Nagasaki, in lat. 32° 45' N., 129° 52' E., the chief city and port of Kiusiu; pop. 70,000. In this place they have a residence; but the residents are restricted to eleven only; and the ships are carefully watched, and the crews, during their stay in port, completely secluded from the natives on the small island of Dejima, close to the harbour. The vessels sail annually from Java about the 1st of July, and return in January. In 1839, the Dutch imports into Japan (as valued at Batavia) amounted to 294,745 (£18,729), principally consisting of sugar, cottons, and woollens. Their exports in the

same year amounted to fl. 680,800 (£56,733); comprising 7085 peculs bar-copper, valued at fl. 513,675; 1190 bales camphor, fl. 113,050; with small quantities of linen and silk stuffs, japan wares, gauze and crape. These amounts are subject to little variation from one year to another; and the trade exhibits no symptoms of increase.

The principal measure of length is the inc = 6½ English feet. The measures of capacity have not been determined. The weights are similar to those of China. Money accounts are kept in taels, mace, and candareens, as in China. The tael = 3½ Dutch florins = 6s. sterling. Most payments are made in silver ingots of various sizes, the values of which are determined by their weight. The Spanish dollar is valued at from 70 to 74 candareens.

JAPANNED or LACKERED WARES. Those of British manufacture were originally only coarse imitations of the lackered toys of Japan and China; but the improvements of John Taylor and of Baskerville, who introduced the light and durable *papier maché*, have now given great elegance and extension to this branch of industry. The chief articles are trays, waiters, snuff-boxes, and similar things. Birmingham is the principal seat of the manufacture; but it is also prosecuted on a large scale at Bilston and Wolverhampton.

Upwards of £3000 worth of foreign lackered ware are annually imported, chiefly from China. That of Japan is the most highly prized; but it is brought only occasionally, and in very small parcels, from Batavia or Holland.

JASPER, a name given to those varieties of quartz in which the colours are red, brown, and black, and occasionally yellow or green, and which occur massive and disseminated with a fracture ranging from conchoidal to earthy, and lustre from glistening to dull. Jaspers are found in Scotland, Cornwall, and other places. *Striped or Ribbon Jasper* presents various shades of green, yellow, and red,—the finest being composed of equal and parallel layers of these colours. Chief localities, the Ural Mountains, Saxony, and Devonshire. *Egyptian Jasper* is generally of a brown colour without; but internally of a lighter hue, sometimes approaching to that of cream, surrounded with zones of brown, and sometimes mixed with black spots.—(Jameson. Phillips.)

JAVA, a noble island subject to Holland, situate in the E. Indian Archipelago, between lat. 6° and 9° S., and long. 105° and 115° E. Area, including the adjoining island of Madura, 45,724 sq. miles. Population 5,000,000. Java and Madura are divided into 20 provinces, or residences. Capital, Batavia, the seat of government of the Dutch E. Indies. The Dutch have had settlements on this island since 1619; but it is only of late years that it has been wholly subdued. It was taken by the British in 1811, and restored in 1816.

Java is divided nearly in its whole length by a range of mountains of volcanic origin, running almost E. and W., and varying in their elevation from 5000 to 12,000 feet. The W. part is chiefy subjected to European influence, and is in general more level and capable of cultivation than the E. part, which is mountainous and wooded, though diversified with rich valleys. This part is cultivated upon the native system, and is occupied by princes tributary to Holland. The island is well watered, and, upon the whole, is the most fertile and most improved of all the Eastern Islands, though it does not excel in the finer spices. The mineral products are trifling: saltpetre is found; and salt is manufactured on the coast near Batavia. The most important natural production is teak, which would be largely exported were the trade not subjected to a rigid monopoly. The chief objects of cultivation are rice, coffee, and sugar, the produce of which has been very greatly increased of late years. Tobacco and a variety of other tropical articles are also produced; and immense sums have recently been expended by the government in attempts to grow indigo, tea, and silk; though, as respects the last two, with but little success. Edible birds' nests are obtained in great quantity from the rocks, called Karang Holang, on the south coast. Arrack and sugar are manufactured extensively by the Chinese at Batavia. In other respects, manufacturing industry is nearly confined to the coarse fabrics woven by the poorer natives.

Few places in the world can exhibit such an expansion of trade as has taken place of late years in Java. This has arisen mainly from its great fertility, the low price at which labour can be procured, and the pains which the government have taken to turn these advantages to the best account by the formation of roads, and by encouraging the investment of European capital in the culture of the soil. Much is also due to the accessibility of its northern coast to the richest countries of Asia, and to the circumstance of its capital, Batavia, having been made the centre of the trade between Europe and the extensive settlements of the Dutch in the Indian Archipelago. The imports into the island, which, in 1827, including specie, amounted only to fl. 17,656,201, increased in 1839 to fl. 24,961,012; while, in the same period, the exports increased from fl. 14,898,227 to fl. 26,718,838 or £4,726,570. Of the goods imported in 1839, there were from Europe and America, fl. 16,172,466 (including fl. 10,875,108 from the Netherlands, and fl. 3,878,800 from Britain), chiefly consisting of linen and cotton stuffs, iron and copper wares, wines and spirits, woollen goods, provisions, and Levant opium; Eastern Archipelago, fl. 4,880,624, comprising principally wax, coffee, gambier, gold-dust, sandal-wood, cotton wool, oil, rattans, spices, béche-de-mer; China, Manilla, and Siam, fl. 1,607,614; Japan, fl. 680,800; Western India and Bengal, fl. 647,877. The leading exports in 1839 were: coffee, 757,476 peculs, of the value of fl. 23,860,409; sugar, 842,017 peculs, fl. 10,946,228; rice, 1,103,378 peculs, fl. 4,689,353; indigo, 1,191,636 lbs., fl. 3,574,900; Banca tin, 47,631 peculs, fl. 2,381,577; nutmegs, 5026 peculs, fl. 1,508,014; tobacco, 2809 kodies, fl. 842,132; mace and cloves, fl. 712,707; birds' nests, 200 peculs, fl. 559,750: the chief other articles were, sandal-wood, yarns, rum, hides, copper-wares, pepper, and gold-dust. The principal places to which the shipments were made, were: The Netherlands, fl. 49,002,471; Eastern Archipelago, fl. 9,033,716;

fl. 2,093,882; Britain, fl. 1,938,506; America, fl. 957,523; France, fl. 832,737; and Australia, fl. 725,104. The Dutch trade is chiefly in the hands of the "Maatschappij," a commercial association formed in 1825, whose capital now amounts to fl. 97,000,000 (about £8,000,000), of fl. 90,000,000 stand in the name of the abdicated king.

principal ports, and those to which foreign trade is confined, are Batavia, Samarang, and Surabaya, on the N. coast, where the sea being usually smooth, and the weather moderate, good passage may be found nearly at all seasons. The S. coast, owing to its complete exposure to Indian Ocean, has no good harbours, and is but little frequented. The best in this quarter are Macassar and Pachitan. Produce, especially rice, is shipped from most of these ports; but the whole external commerce of the island is concentrated at Batavia. About 105,000 vessels enter the ports of Java and Madura annually, embracing 80,000 Dutch, 10,000 British, 15,000 vessels belonging to other countries.

Batavia, the chief port of Java, and indeed of the whole Eastern Islands, is advantageously situated at the mouth of the Jacatra, on the N.W. coast, in lat. 6° 10' S., long. 107° E., at the bottom of an extensive bay. A circular range of islands shelters the roads, and ensures safe anchorage; the water is shallow, and large vessels lie about three miles from shore. The climate is healthy, and varies little throughout the year. Fahrenheit ranges from 72 to 96; the rainy season falls from October to March, when westerly winds prevail; the dry from June to October, the season of the E. monsoon. The old town was proverbially unhealthy, and though of late years rendered more salubrious by the improvement of the canals, and the demolition of several streets, inhabited only by natives and Chinese; Europeans, though they still transact their business, have their residences at Weltevreden, a new town, several miles inland, where are likewise government establishments. Batavia is the centre of an extensive commerce with Europe, India, China, and America. Besides exchanging the produce of Java for the imports from other countries, it is an entrepôt for the productions of all the Eastern Islands and JAPAN.

MEASURES, WEIGHTS, MONEY, &c.

Measures and Weights.—The ell = 27½, and the inch = 12-36 Imp. inches.

Kanne, liquid measure, = 91 Imp. cubic inches; and 33 kannes = 13 English galls. old measure, or 10½ Imp. galls.; a leaguer of arrack randa = 160 English wine galls., or 133½ Imp. galls.; a leaguer of wine is 360 randa.

Ordinary weights here, as well as throughout the Eastern possessions of the Dutch, are of CHINA; the pecul, however, instead of being 160 lbs. avoird., is reckoned at 125 Dutch lbs. = 135 lbs. 10 oz. avoird., but commonly estimated at 136 lbs. avoird. Grain is measured in large quantities by the coyang of 3300 troy lbs. = 3581 lbs. avoird.; in small quantities by the timbang of 5 peculs, or 10 sacks. A sack = 7½ cattles; and the last contains 46 peculs, each of 5 gantons.

Money.—Accounts are stated in Netherlands florins or guilders, each of 100 cents; the florin is a silver coin = 1s. 8d. sterling. In 1828, a bank was established at Batavia, with a capital of fl. 2,000,000; but it has lately suspended payment.

A treaty with Great Britain was concluded by Holland in 1824, which contained provisions for regulating the intercourse between the subjects of the two governments in the East; but its terms are alleged to have been violated by the Dutch authorities in Java, as well in the higher rates they have since imposed on British imports, as in the custom-house valuations on which these rates have been founded. An account of this treaty is given under the head NETHERLANDS.

AN, a thick, strong, twilled cotton fabric, used for stays, jackets, trousers, and similar articles.

REQUING, the search of a ship performed by a custom-house officer (called *requer*), to ascertain if there are any unentered goods concealed.

RSEY, GUERNSEY, ALDERNEY, and SARK, small islands in the English Channel, off the coast of Normandy, subject to the British crown; having originally part of the patrimony of the Norman kings. Area of the whole, 112 sq. miles. Population, in 1841, 76,094. These islands have local legislatures, with members appointed by the crown; their political constitution being separate from that of the United Kingdom.

Jersey, the principal island, situated 13 miles W. of the coast of France, is 12 miles in length, and about 4 miles in breadth. The surface is undulating and fertile, and chiefly laid out in pasturage and orchards; the principal exports are butter, and cows, forming, with oysters and potatoes, the principal exports to England in exchange for coals and manufactures. The trade in other respects is considerable. Nearly 8000 vessels (8000 tons) are employed in the deep-sea cod-fishery, the produce of which is mostly sent to Brazil; and the Jersey merchants, besides carrying on an active intercourse with France, largely wine and brandy from Spain, Portugal, and Sicily, and sugar and coffee from Brazil, they exchange in the N. of Europe for corn, timber, hemp, and tallow. Shoes are exclusively made from French leather, and about 13,000 pairs annually sent to British America. Shipping is carried on to a great extent, owing to foreign timber being allowed to be imported duty-free, while, at the same time, the Jersey vessels are entitled to the privileges of British shipping; and the island now possesses about 250 ships (25,000 tons), exclusive of nearly 500 boats. The chief town and port is St Helier, from whence steamers communicate with Southampton and Weymouth. Revenue of the island about £15,000, and debt £60,000. Exports 8 or 9 per cent. in favour of England, or £1 sterling = £1, 1s. 8d. Jersey currency nearly equal to the French, about 18 miles N.W. of Jersey, is 9 miles long, and 6 broad. It is not equal to Jersey in point of fertility, but its productions are similar. The island possesses about 100 vessels, and 10,000 tons, which are chiefly employed in the carrying trade with Spain, Portugal, Brazil, and N. of Europe. Before the introduction of the bonding system into Britain, it was much used as a dépôt for wines and other goods; and an extensive illicit trade was carried on, which is now, however, wholly ceased. The only town is St Peter's Port.

Guernsey, a dependency of Jersey, is 3½ miles long, and ½ mile broad. It is chiefly celebrated for its produce.

for its small breed of cattle. It possesses no good harbour. *Sark* is another small island dependent on Guernsey.

All articles of the growth, produce, or manufacture of these islands are admitted into this country on payment of the duties (if any) imposed on similar British commodities; but their trade is subjected to certain regulations intended to prevent contraband traffic. An account of these will be found under the heads CUSTOMS REGULATIONS and NAVIGATION.

JET, or *pitch coal*, a species of coal of a deep black colour, with a brilliant resinous lustre. It is found in detached fragments in the amber mines in Prussia, where it is called black amber; also in Germany, France, and Spain. It is used as fuel; but the finer and harder pieces are worked into trinkets. Sometimes also it is used as an ingredient in varnishes and cements.

JETTISON or **JACTURA**, is the throwing overboard any part of a vessel or her contents, for the safety of the remainder, by enabling her to weather a storm or get off a shallow. When such an act takes place, the several persons interested divide the loss among them. [AVERAGE.]

JOANESE, or **JOE**, a Portuguese gold coin, worth about 36s.

JOCH, a German land-measure, containing 6889 sq. yds.

JOINT-ADVENTURE, a shipment made by two or more parties on joint-account. [PARTNERSHIP.]

JOINT STOCK COMPANIES are a species of partnership to which all the laws affecting ordinary private companies apply, except in so far as they are incompatible with the nature of a public joint stock company. This is the position of the law in general as to joint stock companies, but in practice they are in almost every case materially distinct from private partnerships, by the special privileges respectively conceded to them. The leading distinction between joint stock and private companies is this, that, while the latter trade under the name of partners or presumed partners, and in all their transactions present to the public certain individuals as the parties principally liable, the former trade under a descriptive name, on the credit of their stock, and without any individuals appearing as responsible for the engagements. Yet, by the mere creation of a joint stock company and the private agreement of the undertakers, the relief from personal responsibility cannot be accomplished. Unless where there are some of the special privileges described below, the general law of partnership still holds, so that each member is responsible for the debts of the whole; though in Scotland it is doubted whether this responsibility may not be obviated by holding out to the public that they are to trust to the capital only, and not to the individuals.

The next peculiarity of a joint stock company, and one that is essential to the existence of such a body, is, that the shares are transferable as articles of commerce, without the consent of the partnership. How far this can be accomplished voluntarily by the members is a doubtful point. Before the repeal of the Bubble Act, by 6 Geo. IV. c. 91, the creating transferable stock without proper authority, was one of the offences against which the act was aimed; but at the same time, whenever there was any regulation for checking unlimited transferability, such as, that the purchaser of the stock must sign the articles, or must be approved of by the directors, the courts were accustomed to sanction the proceeding; and it may be questioned if the transferability of stock can now be in any form suppressed. It is another general characteristic of a joint stock company, that it pursues and defends in the name of some office-bearer chosen for the purpose; but this is a facility which it can never possess except through the means by which such bodies acquire special privileges.

One of these means may be a charter of incorporation from the crown; but as this is an expensive and cumbersome arrangement, and gives but limited privileges, it is seldom had recourse to by an ordinary commercial association [CORPORATION]. Another method is by obtaining what is generally called a "private bill," but more properly a public local act. The preliminaries for obtaining such a measure are detailed under the head COMPANY. Wherever it is in contemplation to compel individuals to part with their property at a just valuation, or to exact the price of the company's services in the form of a tax, an act is necessary. Hence an act must always be obtained for a railway, canal, harbour, gas, or water company. Since the passing of the statute by which the crown is authorized to issue letters patent to companies (abridged below), local acts have ceased to be necessary for mere commercial joint stock companies.

Shares in such companies may become the subject of ordinary commerce, and will be held as transferred where there is evidence of a mutual consent and transfer, independently of any fixed regulations by the company as to the form of proceeding. The managers of a joint stock company being in the position of trustees,

id to adhere to the original objects of the company. In a late case in Scotland a company was organized for the purpose of carrying goods and passengers between Leith and Australia, the managers, who were empowered to export and import goods, were found not entitled to take consignments of goods bearing the price on *del credere*, or to trade at ports not intermediate between Leith and Australia.—(Maxton *ag't*. Brown, 17th January 1839.)

of Settlement.—The regulations of a joint stock company are generally embodied in the deed of settlement. This instrument “constitutes trustees of the ship property, directors of the partnership affairs, auditors of its accounts, and other officers as the objects of the society require, and contains covenants for the performance of their respective duties, which are specifically set out, as are the rights of the other partners or shareholders; it also defines the number of shares, the value of each, and method of transferring them, and of calling for the instalments required to be made thereon; the mode of convening general meetings of proprietors, the rights when convened, and a variety of other rules suited to the exigencies of the particular undertaking.”—(*Smith's Mercantile L.*, 58.)

Companies under the Patent Act (viz. 7 Wm. IV. & 1 Vict. c. 73).—Letters patent may be granted under the great seal to individuals and their representatives, empowering them to sue and be sued through one of two registered officers, limiting the amount of their individual responsibility to a certain sum per share. A company must be constituted by a deed of partnership, containing its designation, object, and place of business, with the designations of the members, and appointing two officers to sue and be sued. Within three months after the date of the patent a return of these particulars, and of the shares (as designated by their names) held by each individual, together with the extent of responsibility of each, must be made—in England or Ireland to the Enrolment Office of the Court of Chancery, in Scotland to the Register-house; and when transfers of shares are made a notice must be sent within three months. No person is entitled to a share unless he be registered as a member, and every person is held to remain a member, and continues to be responsible as such, until a return of his ceasing to be registered. When responsibility is limited to a certain sum per share, no action is brought against a member for a larger sum than the unpaid balance of his contribution. When application is made to the crown for such letters patent, it is referred to the committee of privy council on trade and plantations; and before the patent is granted notice must be given by the applicants, in the London Gazette and some local paper three times, at intervals of a week. [COMPANY. PARTNERSHIP.] See *on Partnership*, 722-770. *Smith*, ut supra. *Burton's Manual*, 399-402.)

ANAL. [BOOK-KEEPING.]

PLUMS, a fruit of the plum kind, produced in the south of Europe, Persia, and other countries. The Asiatic is much darker than the European, which is of a pale yellow colour. The best are fresh, plump, and well dried.

RED BERRIES (*Du. Geneverbessen. It. Cocole di Ginepro. Ger. Roter-beeren. Fr. Baies de Genièvre*), the well-known fruit of the *Juniperus communis*, an evergreen shrub, growing on heaths and hilly grounds in all parts of Europe.

They are to be chosen fresh, plump, and of a strong taste. These berries possess emollient and diuretic properties, and are an article of the materia medica, chiefly used in distilleries in this country and Holland for flavouring gin and brandy. Though indigenous in Britain, large quantities are imported from the continent, particularly from Italy and Holland.

JUNK, or *tscheou*, a vessel of a grotesque form, used in the coasting and foreign trade of China, Siam, and Annam. The junks vary greatly in size; some exceeding 1000 tons. The best are made at Bangkok, in Siam.

The immutable policy of the Chinese government appears to have early fixed the form of the junk, and now prohibits any change, under penalty of paying the high duties exacted from foreign vessels. They are very much raised at both ends; the fore part is an even surface like the stern, and has no keel. The masts (of a single spar each) are from two to four in number, and of unequal dimensions; the mainmast being greatly larger than any of the rest; and on each mast is commonly a single square sail, made of split bamboos, and stretched by poles; so that it furls and unfurls like a fan. Pumps are not made use of; the cables and rigging are of iron or coir, and the anchors of ironwood, having the flukes occasionally tipped with iron. The hull is broad, though not deep, and the bottom almost completely flat. There is only one hold, and the hold is divided into about a dozen compartments, each belonging to a distinct cargo, and separated from the others by planks, caulked with a cement consisting of lime and with a few scrapings of bamboo. This arrangement, though it must diminish the stowage, has the advantage of preventing water from damaging the cargo in general, and even from endangering the safety of the vessel. The junks seem to have been first contrived with the view of navigating the bays and rivers, for which they are well adapted. But when steered into the ocean, they are unable to take sufficient hold of the water to withstand those dreadful tempests which render the

seas of China perhaps the most perilous in the globe. The voyages, however, being always undertaken during a favourable monsoon, the Chinese set the head of their junk towards the quarter they are bound to, and blunder on with much less damage than might be expected.

JUREMA BARK, an astringent substance, the product of the *acacia jurema*, a native of Brazil.

JUTE, a kind of hemp, consists of the fibres of an annual plant (*Cerciorus olitorius*) extensively cultivated in Bengal. It is used for cordage in India, and is now imported in considerable quantities into this country. The gunny bags in which sugar is brought from India are composed of this material.

K.

KEEL, a flat-bottomed vessel used on the Tyne to carry coals. It contains, on an average, 8 Newcastle chaldrons = $15\frac{1}{2}$ London chaldrons = 21 tons 4 cwt.

KEG, a wooden vessel or barrel containing 4 or 5 gallons.

KELP, an alkaline substance formerly prepared in large quantities on the N. shores of Scotland, by burning seaweed. [BARILLA.]

The kelp trade existed about two centuries; but it was not till the year 1807, when the attention of the English manufacturers was drawn to it, that it became of importance. The cost of curing and burning the material, and lading it in boats, varied from 30s. to £3 a-ton in different places. The whole expenditure, before the kelp reached the consumer, averaged £4, and the prices obtained were generally £18, and sometimes even £22. These high rates only lasted till 1810, when the price gradually fell to £11, and subsequently to £8. Kelp ceased to be made at a profit when the duty was removed from salt in 1817. The number of hands employed has been variously estimated at from 50,000 to 100,000; but the occupation lasted only during a few weeks in summer; and having earned enough for subsistence, the peasant could remain idle during the rest of the year. The Highland estates became in this way burdened with a great surplus population, whose removal by emigration has been since pressed with much force upon the government.—(*Par. Report on Highland Emigration: 1841.*)

KENTLEDGE, pigs of iron used for ballast.

KERMES, or *Coccus ilicis*, an insect found in large quantities on a small species of oak in many parts of Asia and the south of Europe, particularly Spain. It contains a red colouring principle; and, until the discovery of the cochineal insect, was the only substance used in dyeing scarlet from the period when the shell-fish producing the Tyrian purple of the Romans ceased to be employed. It is still used in Barbary and the Levant for dyeing the scarlet caps so much worn in those countries. In Europe it is almost entirely superseded by cochineal.

The same term is likewise applied to a factitious sulphuret of antimony, commonly met with in the form of a brown-red powder.

KERSEYMER, a thin stuff generally woven plain from the finest wools, and made chiefly in the west of England. *Kersey* is a very coarse stuff, usually ribbed, and woven from long wool. It is chiefly manufactured in the north of England.

KILLOW, a Turkish corn-measure, varying in different places. [TURKEY.]

KILOGRAMME, a French weight, equal $2\frac{1}{2}$ lbs. avoird. nearly.

KILOMETRE, a French itinerary measure, equal 1093 $\frac{1}{2}$ yards, or about 5 furlongs.

KINGWOOD, a fancy wood, the product of a small tree found in Brazil, the botanical name of which is unknown. It is extremely hard, of a dark chocolate colour, with black veins. It is chiefly employed for small cabinet-work.

KINO, an astringent gummy substance, of which there are several kinds. Much uncertainty exists regarding the origin of this commodity. East Indian kino is said to be the produce of the *Butea frondosa* (Roxb.), a tree or shrub common in that part of Asia; African kino is generally stated to be derived from the *Pterocarpus erinaceus* (Linn.), a native of Gambia; the Australian variety is procured from the *Eucalyptus resinifera* (White); and the American is said to be the juice of the *Coccoloba urifera* of the West Indies. Kino generally occurs in shining grains, of a rich ruby-red colour, readily pulverizable, and nearly all soluble in water and in alcohol. In India it is used for communicating a nankeen colour to cotton. It is also an article of the materia medica.

KIRSCHWASSER, an alcoholic liquor, made in Germany from CHERRIES.

KISSMISSES, the small kind of grape from which Shiraz wine is obtained. It is produced in Persia, from whence considerable quantities are sent to India when dried into raisins. Their price is regularly quoted in the Indian prices current.

KNIVES (Du. *Messen.* Fr. *Couteaux.* Ger. *Messer.* It. *Coltelli.* Por. *Focosi.* Rus. *Nashi.* Sp. *Cuchillos*). [IRON MANUFACTURES.]

KNOT, in navigation, the division of the LOG-LINE, corresponding to one mile.

ŁSEC, a Polish corn-measure, equal, at Warsaw, to $3\frac{1}{2}$ Imp. bushels.

CREOSOTE, or **CREOSOTE**, a peculiar liquid of recent discovery, which is obtained by a complicated process from wood-tar. When pure, it is colourless and transparent, of a burning caustic taste, and a strong penetrating odour, resembling that of smoked meat. Sp. gr. 1.037. It burns with a very sooty flame. It possesses powerful antiseptic properties. Meat and fish are preserved having been brushed over with it and dried in the sun; and it appears to be the principle to which the antiseptic powers of wood-smoke and pyroligneous acid are due. Its action upon the animal system is energetic. In medicine it is employed externally for toothach, cancer, &c.; and internally as a stimulant.

SCHUTZER, a German coin, worth about one-third of a penny.

L.

LEUCADANUM, a resinous substance, obtained from a small shrub (*Cistus Creticus*), grows in Crete and Syria. It is used in the preparation of plasters. The resin is in dark-coloured masses, of a soft consistence, becoming still softer on being dissolved. It is greatly adulterated by the addition of black sand.

LEUCURNUM, a well-known tree (*L. Cytisus*) which, when of sufficient dimensions, is well adapted for cabinet-work. It possesses an oily property, which fits it for the turning of blocks, and cogs in mill-work, as its unctuous nature prevents it from being abraded; indeed, wherever any very hard and compact timber is required in all pieces, there are few superior to it. Its natural colour, too, is good; and it may be rendered almost black by the application of lime-water.

LAC, in Hindoo numeration, denotes 100,000. A lac of rupees is, therefore, £10,000 sterling.

LAC (Arab. *Laak*. Du. *Gomlac*. Fr. *Lacque*. Ger. *Lack*. Hind. *Lak'h*. It.

Por. *Laca em páos*), a resinous or waxy substance, deposited by an insect (*Laccifer lacca*) on various kinds of trees in the East as a defence for its eggs, and as food for the maggot in a more advanced state. It is known under various names of stick-lac, seed-lac, lump or cake lac, and shell-lac. *Stick-lac* is the lac in its natural state before its separation from the twigs which it incrusts, and is gathered before the insects have left their cells; and the best is of a red or orange colour. According to Mr Milburn, it may be had in almost any quantity; but with some trouble in procuring it being to break the branches and carry them to market. *Seed-lac* is the stick-lac separated from the twigs, appearing in a granular form, and deprived of part of its colouring matter by boiling: this is seldom used, it being almost all manufactured into shell-lac in India. *Lump-lac* is seed-lac melted and formed into cakes. *Shell-lac*, the most common form in which it is known in Europe, is the substance liquefied, strained, and formed into transparent laminae. The value is estimated according to its transparency and brightness of colour. The best is of a bright orange; the liver-coloured is inferior; and that which is very thick, dark, or speckled, should be avoided. The quality of shell-lac has of late years been greatly improved; and the quantity produced is much increased. In the East it is used for making trinkets. In this country it is the basis of the best sealing-wax, and is also used to form ink and varnish. It is now likewise employed extensively in hatmaking.

Lac is an article of commerce in Bengal, Siam, Annam, Ceylon, Pegu; and, according to Mr Crawford, the insect exists in most of the forests of the Indian Islands. About 3,000,000 lbs. of shell-lac are annually imported, wholly from Bengal,—one-half of which, however, is re-exported to Italy, Belgium, Russia, Germany, and other parts of the Continent.

LAC-DYE, **LAC-LAKE**, are two preparations of the colouring matter of stick-lac. The former is by far the most valuable. They are imported in small square cakes similar to those of indigo. They should, when broken, look dark-coloured, and be smooth, and compact; and when scraped or powdered, of a bright red colour. They are used as red dyes for some purposes, instead of cochineal. Lac is a valuable dye-stuff, but it still admits of considerable improvement. Upwards of 100,000 lbs. are annually imported, only from Bengal,—nearly one-half of which is again exported to Italy, Germany, and other parts of the Continent.

LACE AND BOBBIN-NET MANUFACTURES. The origin and early history of lace-manufacture are involved in obscurity. It is supposed to have been known to the ancients, and to have been introduced into this country, or at least

materially improved, by Flemish refugees who settled in the counties of Buckingham and Bedford. The original fabric, and that which is still in highest esteem, is called *pillow lace*,—being worked by the hand upon a pillow or cushion, stuck, according to the pattern, with pins, around which linen or silken threads are twisted and woven off a series of bobbins, or small cylindrical pieces of wood. The manufacture of this kind of lace is carried on in several of the midland counties, in the west of England, and at Honiton in Devonshire, where the finest British lace is made. On the Continent its chief seats are Brussels and Mechlin in Belgium,—places which have long maintained a pre-eminence in this manufacture; and Valenciennes, Alençon, Caen, and Bayeux in the north of France. But lacemaking by the hand has now greatly declined, owing to the extreme cheapness of that made by machines, called bobbin-net,—the manufacture of which has of late years risen into high importance both in this country and in France.

The bobbin-net trade is a branch of the cotton manufacture; the net being almost invariably formed of that material. It originated in successive improvements and alterations on the stocking-frame, by which it was adapted to the weaving of lace; though it is deserving of notice that it could have had no existence but for Samuel Crompton's invention, the mule [COTTON MANUFACTURE] which spins yarn suitable for that delicate fabric. The application of the stocking-frame to lacemaking was first attempted by a frame-work knitter of Nottingham, named Hammond, about 1768; but it was not rendered completely successful till after improvements by John Heathcoat,* also of Nottingham, for which a patent was secured in 1809. His improvements were of so important a character as to entitle him to be justly considered the inventor of the lace-frame, and the father of the bobbin-net manufacture. The lace-frame was simplified in various ways during the continuance of the patent; and, on its expiry in 1823, so much ingenuity was brought to bear upon this machine, that its speed was increased twelve-fold, and it was fitted to be propelled by steam and water power. Means were besides discovered for making the net into slips of various widths,—some as wide as 4 yards,—instead of only one broad piece, as at first; and likewise to work various ornaments into it by the aid of machinery, which, in point of complex ingenuity, far surpasses that used in any other branch of human industry. "One of Fisher's spotting-frames," according to Dr Ure, "is as much beyond the most curious chronometer in multiplicity of mechanical device, as that is beyond a common roasting-jack." The combined effect of these improvements is, that fabrics, for which £5 were paid during the existence of Mr Heathcoat's patent, may now be purchased for 2s. 6d.

The growth of the bobbin-net trade after 1823 was as rapid as that of the cotton manufacture after the nullification of Arkwright's patent. But a vast amount of capital was sunk during the development of the improvements on Mr Heathcoat's frame:—out of 5000 machines, the 3500 first constructed at a cost of £2,000,000, were, in the course of a few years, by this cause alone, depreciated to one-tenth of their value,—to say nothing of the number of frames destroyed during the Luddite crusade against machinery in the years 1811-12. Much distress was also occasioned in the same period, by the decline of profits and wages, consequent on the excessive amount of capital and labour which flowed into the trade.

The great seat of the bobbin-net trade in this country is Nottingham; but it is also extensively prosecuted at Leicester, Derby, Tiverton, and the west of England. We possess no authoritative estimate of its amount more recent than 1836. In that year the cotton yarn (mostly Nos. 180, 190, and 200) used in it required 1,850,000 lbs. of Sea-island wool, worth £185,000; and silk was consumed of the value of £25,000; making the total worth of the raw material £210,000. The gross return amounted to £2,212,000; consisting of plain net, £660,000; quillings, £492,000; and embroidered goods, £1,060,000. The sales for home consumption were in plain nets, about £320,000; quillings, £210,000; embroidered goods, £580,000; total, £1,110,000. The foreign trade took off about £340,000 plain nets; £282,000 quillings; and £480,000 figured goods; total, £1,102,000. The progress of our foreign trade since 1836 cannot be stated with precision, as bobbin-net does

* Mr Heathcoat removed to Tiverton soon after he had obtained his patent, owing to the riotous attacks made on his lace-frames at Nottingham,—that town having become, through the ignorance of the workmen, the head-quarters of an extensive conspiracy against machinery, known by the name of Luddism, in the counties of York, Lancaster, Nottingham, Derby, and Chester; and which was only put down after many men had atoned by their lives for their acts of outrage. Mr Heathcoat began life in humble circumstances, and made his fortune by his happy invention; and, being at once a man of talent and of business, he now fills the honourable station of member of parliament for Tiverton.

not appear under a separate head in the government returns ; but its amount is not supposed to have increased. The exports are chiefly made to the United States, Germany, Belgium, France, the British Colonies, and South America.

The following are the principal kinds of lace usually met with in trade :—

BRITISH LACE.—Nine sorts may be distinguished :—1st, *Quilling Nets* ; these differ in width from a small fraction of an inch up to $\frac{1}{2}$ yard ; which several widths are also sometimes denoted by the number of meshes from selvege to selvege. The criteria of good quality are—perfect freedom from any fibrous appearance on the substance of the net ; clearness and distinctness in the meshes ; absence of knots and rags from the selvages, and of any unpleasant stiffness from the face generally. 2d, *Bobbin or Piece Nets*, to which the same observations apply, may be had of various widths, from $\frac{1}{4}$ to $\frac{1}{2}$ yard. 3d and 4th, *Tattings* and *Pearls* only differ from the preceding in width ; tattings vary in width from a quarter to the sixteenth of an inch ; pearls are still narrower : both are used for the edging of nets. 5th, *Gased Lace*, or *Urling's Lace*, is a quilling net figured,—having a threadlike appearance communicated to it by being passed rapidly through gas-flame, by which the fibrous parts are destroyed, without injury to the net : it is merely a showy, low-priced substitute for—6th, *Pillow or Thread Lace*, the only legitimate lace, and, taking durability into account, perhaps the cheapest : it occurs either white or black. 7th, *Silk Net* is either in quillings or in piece,—the latter, when tolerably undressed, being sometimes called *tulle* : in each the meshes ought to be free from gum (with which it is stiffened), the selvages free from rags, and the face from knots and other imperfections. 8th, *Blondes* occur either black or white ; these again are either real, the best of which are imported from France, or in imitation : each kind may be had of any width below $\frac{1}{2}$ yard for trimmings, and of greater sizes for full-dress garments. 9th, *Veils* should be perfectly free from stiffness ; and, if figured, the objects should be neatly finished ; the net fine ; and, when intended to be black, not of a blueish tinge. In selecting lace, nets, or veils, the more rapid the observation the better, for, the longer the eye is engaged on the meshes, the less capable it is of accurate discrimination.—*Perkins on Haberdashery*, p. 121.

FOREIGN LACE.—The most valuable is *Brussels*, the peculiar qualities of which are delicate fineness, and a great elegance and variety of design. It is made of flax grown near Hal and at Rebecque ; and the spinning is performed in darkened rooms, with a beam of light admitted only upon the work through a small aperture. The best specimens are produced by the houses of MM. Tardent-Firiet, and Ducpetiaux of Brussels. The second in rank is *Mechlin* ; but several other kinds are likewise distinguished for great richness and elegance.

Lace is imported from France in considerable quantities, but, owing to the heavy duty, almost wholly in an illicit manner, the charge for which is stated to be only from 5 to 10 per cent. Much of this smuggled lace, however, is merely British lace with French embroidery.

LADING, BILL OF. [BILL OF LADING.]

LAMP-BLACK, a substance obtained by burning the impurities left in the precipitation of tar and pitch, and collecting the particles carried off and deposited in the form of soot. The finest kind is procured by collecting the smoke from a lamp which supplies more oil than can be perfectly consumed. Its quality depends on its lightness and fulness of colour. It is used in the arts, particularly in the manufacture of printers' ink.

LAMPREY, a cartilaginous fish (*Petromyzon marinus*) resembling an eel, common during spring and summer in some of the rivers on the south coast of England, particularly the Severn, which it ascends from the sea for the purpose of depositing its spawn. It is found in smaller numbers in several of the Irish and Scottish streams. The potted lampreys of Worcester are in high estimation.

LANCEWOOD, the timber of a tree (*Guatteria virgata*) indigenous to Jamaica, and which, though not of very great size, is highly valued from its exceeding even ash in lightness, strength, and elasticity ; hence, it is admirably calculated for shafts to carriages, handles to spears, and similar purposes. It is neither so close-grained nor so hard as box, but it turns well ; in colour it is lighter than box.

LAND-TAX OR CESS, a British impost on rent, which became a permanent source of revenue in the end of the 17th century, superseding the occasional subsidies of the feudal government. It proceeded on valuations of the rental of the kingdom, made in Scotland in 1674, and in England in 1692 ; on which last a tax of 1s. a-pound was calculated to yield a clear annual revenue of £500,000. These valuations have ever since furnished the canons of assessment. The tax was granted by parliament from year to year, at various rates, until 1798, when it was fixed permanently at 4s. a-pound (38 Geo. III. c. 5, and c. 60). The object of rendering the tax perpetual was to facilitate the raising of money by its redemption or purchase by the proprietor of the land ; and various provisions were made for this purpose, which, however, have been since modified, particularly in 1811 and 1812, when the management was transferred from special commissioners to those for the affairs of taxes. The assessment is levied under the authority of local commissioners ; but by a late act (1 & 2 Vict. c. 58) the powers relating to its redemption are transferred to the Treasury.

We possess no very recent account of the amount redeemed : but a report made by the commissioners in May 1828 states, that down to that time the number of sales effected had been 3593, the value thereof being £1,438,513 ; and the total amount of tax redeemed thereby could not be fairly estimated at less than £63,100

per annum. The sum remitted to the Exchequer in the year 1840 was, in England, £1,145,082; in Scotland, £36,201; total, £1,181,283. In the last-mentioned country the tax was limited by the Act of Union in 1707 to £48,000 (deducting all expenses); and in 1798 it was fixed at £47,954, 1s. 2d.

LANDWAITER, a custom-house officer, whose duty it is to take an account of goods imported.

LAPIS LAZULI. [AZURE STONE.]

LARCH. [PINE.]

LARD, the fat of the omentum and mesentery of the pig. When properly freed from membranes and blood by being picked, kneaded in water, melted and strained through linen, it should be white, pultaceous, in thin layers, somewhat tough, without smell, of a sweetish taste, and melting at 100° Fahr. It is to be kept in a cool dry situation, in vessels with a cover, luted on with linen, smeared with white of egg and powdered lime; but notwithstanding every precaution it at length becomes rancid. Lard is employed in the formation of ointments, plasters, liniments, and for other medical purposes. It forms an article of export from Waterford, Limerick, and other places.

LAST, a metrical term, of German origin, used to express a load, burden, or quantity of certain articles, commonly of a bulky nature. In this country the last of corn is 10 quarters or 29·078 French hectolitres; on the Continent, however, it is generally rated higher. The last of herrings, tar, pitch, potash, cod-fish, meal, soap, and other articles, is commonly reckoned at 12 barrels (12 Ch. II., 38 Geo. III., &c.); but the last of gunpowder is 24 barrels or 2400 lbs. The Prussian ship-last is 4000 Prussian lbs. = 4124 lbs. avoird. At Dantzic the last of timber is 80 cubic feet.

LASTING, a woollen stuff used in making women's shoes.

LATHS (Ger. *Latten*), long thin pieces of wood nailed to the rafters of a wall or roof to receive the plaster.

LATTEN, a plate or sheet of iron, tinned over.

LAUDANUM, a soporific tincture made from **OPIMUM**.

LAVENDER, a plant (*Lavandula spica*) yielding the well-known oil and distilled waters which bear its name. Both of these are obtained in greatest proportion from the flower-spikes which have been gathered in dry weather before they are fully expanded. Lavender is extensively cultivated near London, particularly at Park Place, near Henley-on-Thames. The English oil is preferable to that imported from the Continent.

LAWN, a fine sort of cambric. It is made in Scotland and Ireland, but the best is imported from France.

LAY-DAYS, a certain number of days during which a merchant is entitled to delay a vessel in loading and unloading. [AFFREIGHTMENT. DEMURRAGE.]

LAZARETTO, a name given to these enclosed buildings, common in the Mediterranean ports, in which ships' crews, passengers, and goods arriving from places where the plague is known to prevail, are lodged for the performance of **QUARANTINE**.

LEAD (Fr. *Plomb*. Ger. *Blei*. It. *Piombo*. Du. *Lood*. Por. *Chumbo*. Rus. *Swinetz*. Sp. *Plomo*), a soft and flexible metal, of a pale livid gray colour, easily malleable, but slightly tenacious and not sonorous. Sp. gr. 11·35. It melts at 612° Fahr.,—a much lower heat than affects most other metals. Exposed in the open air, it soon tarnishes; but the oxidisement never proceeds far. Water when pure does not act upon it, though it greatly facilitates the influence of the external air.

The lead mines of Britain are of great importance; and those of Derbyshire are said to have been wrought prior to the Roman invasion. The most productive at present are situated in Northumberland, Cumberland, Durham, Derbyshire, Flintshire, Snafeld in Man, and at Leadhills in Scotland. The metal is rare in Ireland. Nearly all the produce of the British mines is obtained from the sulphuret called *galena*, in which lead is in combination with sulphur in the proportion of 86 parts of metal to 14 of sulphur. The ore, after having been washed and picked, is roasted in order to disengage the sulphur; then mixed with fuel, it is placed in the smelting furnace. When tapped from this it runs down a straight channel technically called the *sow*, from which branch off on each side some smaller channels named *pigs*; in these it cools, and from them receives the appellation of *pig lead*.

Lead is of common and extensive use in the arts. Alloyed with tin, in different proportions, it forms *solder* and *pewter*; and with antimony it constitutes *type metal*. Combined with oxygen it forms *massicot*, a protoxide of a pale yellow colour; *litharge*, also a semi-crystalline protoxide, obtained in separating silver from lead.

enters largely into the composition of flint-glass; *minium*, or *red lead*, a oxide, extensively used as a paint, and also in the manufacture of flint- the carbonate of lead, or *white lead*, is a dense white powder, commonly used as a pigment; the chromate of lead, of a beautiful yellow colour, is also used as a pigment; and the acetate of lead, called *sugar of lead*, is employed for various purposes.

pure metal is used for numerous machines and utensils; but its chief employment is in the form of sheets, pipes, and shot. *Sheet-lead* is melted and cast; the edges of the sheets being frequently reduced by means of heavy rollers worked by steam-power. The sheet is of different thicknesses, but always weighs 9 cwt., and its length and breadth will be greater in proportion to the diminution of thickness. In trade, the sheets are described as being of so many pounds weight per superficial square foot. *Lead pipes* are sometimes made in a rough way by rolling sheet-lead over a mandrel, and soldering the edges together; but more commonly by casting the pipe in an iron cylinder, having a concentric iron rod or mandrel, and afterwards drawing the pipe through a succession of holes in steel plates, diminishing gradually in diameter, whereby the pipe is lengthened, while its substance is reduced; and the machinery employed for this process is now so perfect, that a faulty pipe is rarely met with. *Lead shot* is prepared by pouring molten lead, in a peculiar manner, through a colander, or perforated plate, placed at the top of a high tower, from whence the globules descend into a tub of water on the floor: the shot thus made is of various sizes, but it is afterwards sorted by means of a series of sieves, having meshes of different degrees of fineness.

The quantity of lead produced in this country is so considerable, that there is a great surplus for exportation. Mr Brande estimates the smelted lead annually produced by the British mines at 48,000 tons, which, at £19, 10s. a-ton, the present price of lead, would make the produce worth £936,000. Little dependence, however, can be placed upon the accuracy of such estimates, as the individuals by whom the most productive of our mines are worked, studiously conceal the amount of metal which they raise. Nor is much light thrown upon the subject by the national-house records, as the extent of our exports is, in a great degree, governed by the comparative productiveness of foreign mines, and particularly by those of Spain in the province of Granada, the working of which is liable to considerable fluctuation. In ordinary years, the produce of the latter may be estimated at 20,000 tons, two-thirds of which are sent to France, while from 1500 to 2000 tons are brought to this country, from whence again, however, it is almost wholly re-exported. The ordinary exports of British lead amount annually to 15,000 tons, four-fifths of which consist of pig and rolled lead and shot, the remainder being white and red lead and litharge: it is chiefly sent to India, the East Indies, Russia, Germany, Holland, and Brazil.

There are many lead mines in Saxony, Bohemia, Silesia, and other parts of Germany; they are also worked, though not on a great scale, in the United States, particularly in Missouri.

The value of lead at London and Hull is 19½ cwt.; at Newcastle, 21 cwt.; at Chester, 20 cwt.; at London, 22 cwt.; at Derby, 22½ cwt. The cwt. of lead at Hull and Chester is 120 lbs. The lead ore of 9 dishes = 3 cwt. nearly.

AD, BLACK. [PLUMBAGO.]

AGUE, an itinerary measure, reckoned in this country at 3 geographical or nautical miles, or the twentieth part of a degree of latitude, which is very nearly equivalent to 6076 yards, 3¼ statute miles, or 5.555 French kilometres. The same measure is generally used by foreign nations for nautical purposes. A variety of other measures are used on the Continent, particularly in France, where they are the cause of much confusion. An account of the leagues used in foreign states will be found in the heads of those states respectively.

ALLOWANCE, an allowance made for waste or loss of liquors.

INTEREST, COMPOUND, AND ANNUITIES.]

ATHER (Fr. *Cuir*. Ger. *Leder*) consists of the dressed skins of animals. In converting skins into leather, different processes are followed, according to the nature and the kind of article required; as *tanning*, or causing them, after being freed from impurities, to unite with astringent vegetable matter, by which they are rendered no longer liable to undergo putrefaction, insoluble in water, and in a measure impervious to it; *tawing* or soaking them in alum and other salts, with some animal substance; and *currying* or besmearing them with oil to render them softer and completely impervious to water. These processes are often performed on the same skin, by which the leather is fitted for different purposes. The

thick hides, of which the soles of shoes are made, are merely tanned thin ones used for *glove leather* and *morocco*, are tawed, except when they are dyed, when they also receive a slight tanning in an infusion of sumac. The leather for the upper leather of boots and shoes is both tanned and curried, and *leather* is first tawed and afterwards tanned.

The leather manufacture in this country is one of very great importance. We have not at present any means of ascertaining its amount, the excise-duty having been repealed in the year 1830. As at that time, the quantity of unwrought leather produced in England and Scotland was 60,000,000 lbs., we may estimate the present annual production of the United Kingdom at from 80,000,000 to 85,000,000 lbs., and its value at about £5,500,000. The aggregate value of the leather goods is estimated by some at three times and others at four times that of the raw material, making the amount of the manufacture on the former supposition, £16,500,000, on the latter, £22,000,000. The number of persons employed in all the branches, including tanners, curriers, makers, glovers, saddlers, &c., is computed at from 250,000 to 300,000.

The exports, though not considerable, are rather on the increase; the value of wrought and unwrought, annually shipped, amounts to nearly 2,500,000 £, the declared value of £380,000, besides saddlery and harness to the value of 1,000,000 £. These exports are almost wholly to the colonies, especially India, the West Indies, and the United States.

In 1821, the revenue derived from the duty of 3d. a-pound, which was then levied on leather, amounted to £600,282. In 1822, the rate was reduced one-half, and in 1823, it was reduced to one-fourth. Owing to the greater stimulus given to consumption by this reduction, the revenue suffered only to the extent of one-fourth,—the lower duty having produced an average of the seven following years, which elapsed before it was entirely abolished, no less than £407,814. The reasons assigned for the abolition of this duty were, that it was unequal in its operation, falling with disproportionate pressure upon the humbler classes, and that the excise-duty, under which the manufacture was placed, formed an obstacle to the improvement of the quality.

LEDGER, in book-keeping, the principal record of a merchant's transactions. It is arranged so as to distinguish the debt or property belonging to each party, or account respectively.

According to Dr Kelly, "the name of this book, in the Italian and other southern Europe, signifies the *master-book*; in French and Dutch, the *great book*; and in other northern languages, the *head book*. The derivations given of *ledger* in our dictionaries are fanciful and contradictory. According to Bailey, it comes from the Latin *legere*, to gather; and Dr Johnson says it is derived from the Dutch verb *legen* (a typographical error for *legen*), to lie or remain in a place. The word is perhaps derived from the *lieger* books of feudal times for the purpose of recording the rents, services, and duties of tenants, with *legemen*."—(*Book-keeping*: Introd. p. vii.)

LEECH (Fr. *Sanguisue*. Ger. *Blutigel*), a fat, slimy, annulose, parasitic animal (*Hirudo medicinalis*, Savigny), generally inhabiting stagnant waters, celebrated for its use in cases requiring local blood-letting. Two species have been chiefly employed for this purpose: The German or gray leech (*S. medicinalis*), a native of Central Europe, having a deep green body, marked with six longitudinal iron-colored bands, pretty clear, and spotted with black points; its belly greenish, spotted, and marked with black; and the segments of the body rough from granular eminences. The Hungarian or green leech (*S. officinalis*), found in the S. of Europe, has a green, or light blackish green body, the back being marked with six iron-colored bands, spotted at their middle portion and edge; the belly, yellowish green, spotted, but broadly bordered with black; and the segments of the body very smooth. Of this kind there are three varieties. One German leech is deemed equal to two Hungarian leeches. These animals attain maturity in from 5 to 8 weeks, and may live twenty years. They are generally caught by the hand, or by a person wading in the shallow waters during spring, when they adhere to his naked legs. In summer, when they retire to deeper waters, they are usually entangled by the raft constructed of twigs and rushes.

As leeches are now scarce in Western Europe, nearly all our supplies are procured from Hamburg dealers, who procure them from the Ukraine. "Having exhausted the lakes of Silesia, Bohemia, and other more frequented parts of Germany, the buyers are now rolling gradually and implacably eastward, carrying desolation among the leeches in their course—sweeping all before them, they have got as far as Poltava, the pools and swamps about which are yielding great captures" (*Bremner's Russia*, vol. ii. p. 408; 1839). They are

imported in bags, but more usually in small barrels, each holding about 2000, the head being made of stout canvass to admit the air. Many sicken and die on the journey from the place of capture, especially during warm weather. Mr Pereira, in his *Materia Medica*, states that the best vessels for preserving these animals are unglazed brown pans or wooden tubs; the leaden glazing being supposed injurious. These pans should be very little more than half-filled with soft water. In very hot weather, when the water becomes discoloured, it should be changed every day; otherwise, in summer every four or five days, and in winter once a-month is believed by large dealers to be sufficient. The consumption of leeches is enormous. Some years ago it was stated that four principal dealers in London imported, on an average, no fewer than 600,000 monthly.

LEGHORN. [TUSCANY.]

LEMONS (Fr. *Limons*. Ger. *Limonen*. It. *Limoni*. Por. *Limoes*. Sp. *Limones*), the fruit of a tree of the citron or orange family (*Citrus limonum*), a native of Eastern Asia, from whence it has spread to Greece, Italy, and other parts of the S. of Europe. The fruit is oblong in shape, and its juice is analogous to that of the orange, from which it only differs in containing more citric acid and less sugar. The quantity of the former is very great (CITRIC ACID), and, being an approved specific in the prevention and cure of scurvy, a powerful and agreeable antiseptic, as well as an ingredient in punch and many pleasant refrigerant drinks, it forms, in an expressed state, an important article of trade, especially in Italy: being liable to ferment, it is, when exported in this condition, secured in bottles, and covered with a thin stratum of oil. The rind is a bitter aromatic, and is frequently employed in stomachic tinctures, and for preserves and liqueurs; it also yields an essential oil, which is much used in perfumery. For these purposes, lemons are largely consumed in this country; the best are brought from Spain, but they are likewise imported from other places, particularly Portugal and the Azores.

LETTER OF ATTORNEY, or POWER OF ATTORNEY, is simply a deed authorizing some person to act for the granter in any matter which he has the right of either transacting himself or delegating to another. It applies as well to real as to personal property, but in its former capacity (in which, in Scotland, it is called a procuratory) it is connected with a complicated system foreign to the present work. The powers usually conveyed by the ordinary letter are to collect debts, transfer stock, sell commodities, invest money, receive dividends, or similar purposes. A pure letter of attorney to serve the objects for which such a document is intended is revocable, but when it is used as a transfer or assignment, and does not merely authorize the attorney to act for the granter, but puts him in his place (*e.g.* where a party gets authority to collect accounts, as a consideration for money advanced), the authority is irrevocable. A person holding a letter of attorney represents his principal solely through that authority, and both he and third parties are limited to its terms, and responsible when they are exceeded. There is thus no room for those disputes regarding the powers implied in the nature of the contract, which occur in the case of principal and agent. The power, however, may be either special as to particular transactions, or general as to all a party's proprietary affairs; and it may or may not include a factorship or agency, the terms of which must be interpreted according to the rules applicable to those branches. [FACTOR. PRINCIPAL AND AGENT.] A person acting under power of attorney must do so in the name of his principal, and not in his own. A letter, unless it contain an assignment, falls on the death of the principal. If not so terminated or revoked, the power exists till its purpose is fulfilled, and if clearly expressed, will authorize the subsidiary procedure necessary to bring about the main end; thus a letter to sue for, receive, and recover a debt authorizes the attorney to arrest the debtor.—(*Comyns' Digest: Attorney*, c. *Paley on Principal and Agent*, p. 180-192.)

LETTER OF CREDIT, a letter from one mercantile correspondent to another, requesting him to advance money to a certain amount to the bearer, or a third party named. The letter should also describe the manner in which the money is to be reimbursed, and the nature of the voucher to be taken for it. The granting of such a letter is generally announced in course of post to the correspondent; a duplicate of it being sent at same time, and the signature of the party in whose favour the credit is established, or a description of him, in case the document should fall into improper hands.

LETTERS OF MARQUE, in their original acceptation, mean a warrant by a sovereign, authorizing a subject who has received injury from any inhabitants of another state to make reprisals on that state. In this acceptation, the issuing

letters of marque does not necessarily accompany a declaration of war ; indeed it would appear to be a measure of retaliation, to be resorted to when the aggression on the other side is not sufficiently extensive or public to call for national hostilities. Thus, the 4 Hen. V. c. 7, provides for the granting of letters to those who are aggrieved by foreigners during time of truce. This species of warrant has, however, been long in disuse ; and letters of marque have of late been granted in conformity with the provisions of acts for manning the navy, and are virtually commissions to privateers. They have two advantages, *1st*, They authorize private vessels to fight with enemies without becoming liable to a charge of piracy ; and, *2dly*, They preserve to the owners, officers, and crews, the prizes made by privateers, which would otherwise fall to the crown. For the conditions under which letters of marque have thus been in use to be granted, see 45 Geo. III. c. 72, § 9-15.

LETTUCE, a well-known succulent vegetable (*Lactuca sativa*), used as a salad. After its flower-stem shoots, it abounds with a milky juice, possessing soporific powers, and which, in the strong-scented wild lettuce (*L. virosa*), is so abundant that it has been used as a substitute for laudanum and opium.

LEVANTINE, a stout, close-made, twilled, silken fabric, now little used.

LIABILITIES, a term applied in a comprehensive sense to all the pecuniary obligations of an individual or company.

LIBRA, the Latin, Spanish, and Italian name for a pound in weight ; also a Spanish money of account, varying in different provinces.

LICENSE, an official grant of permission. Licenses are required in this country for prosecuting various trades and professions, as pawnbroking, appraising, officiating as auctioneer, banking, dealing in plate, distilling spirits, beer-brewing, malting, dealing in wine, spirits, beer, cider, coffee, and tobacco, and for the making of glass, soap, and other commodities, an account of which will be found under their appropriate heads. These licenses are issued by the Boards of Excise and Stamps. Licenses are also required for certain kinds of vessels, luggers, and boats, under the act for the prevention of SMUGGLING.

LIEN OR RETENTION is a right which the law gives to individuals in certain situations, to retain property of another which may be in their custody, until certain claims of the custodier against the proprietor be satisfied. To constitute lien, the possession must have been legally obtained for the purpose out of which the claim of lien arises, and must not be the result of force, fraud, or accident. The possession must be actual, either through the creditor or one of his agents. Liens are of two kinds, special and general. The former is the simple retention of the property, which has been the subject of some contract, implying payment on the one side and delivery on the other,—the delivery being delayed until the payment is made. Persons bestowing labour or skill in improving the value of any moveable, have generally a lien over it ; as, a miller, a shipwright, a tailor, a dyer, a bleacher,—each on the commodity passing through his hands. Carriers and ship-owners have a lien for the property they convey ; but there is none for dead-freight or demurrage, unless it be stipulated for. There appears to be no lien on a passenger or the clothes he wears, though there may be on his luggage. Innkeepers and stablers, being under an obligation to receive guests and their cattle, are said to be provided by the law with this efficacious remedy as a counterpart of their obligation. Livery stablers and agisters (or persons affording pasture to cattle at so much per week) have no such lien in England ; in Scotland, however, a different doctrine seems to be held, that “ the lien would be given on the broad principle, that it is the resulting security for the *actio contraria* in all cases” (*Bell's Com.* II. 104). A special lien is easily created by the usage of trade, and may at any time be stipulated as an article in a contract.

General Lien is of a more complicated description, being the right to retain for a general balance arising in the course of a series of transactions. An express contract, or a contract to be clearly implied from the previous dealings of the parties, or a distinct course of commercial usage, is required to constitute such a lien. “ To establish a general lien on the ground of usage, strong and satisfactory evidence must be adduced of ancient, numerous, and important instances, in which the right has been exercised. When the usage is general, and prevails to such an extent that all parties contracting may be supposed conversant of it, they will, of necessity, be bound by the custom : for the usage of trade amounts to evidence of contract ; and where such usage is general, and has been so long established as to afford a presumption of its being commonly known, it is only fair to conclude that the parties contracted with reference to it” (*Cross*, 15). It would appear that the usage of a *district* may have the effect of at least excluding a species of lien, so-

known by the law to hold good in places where it is practised. A law-agent or attorney has a general lien on the papers of his client coming into his hands in the proper course of his business. Calico-printers, dyers, and wharfingers have a general lien in their respective trades,—fullers have not (though they are said to have such a right in the city of Exeter by ancient usage, *Cross*, 341-2). A factor has a general lien on the goods in his possession, for the general balance on the whole of the charges he is entitled to in the course of his factorage. If he shall have become security for his principal with his consent, and has been compelled to pay the sum, it is part of the balance on which he has a lien. In this, as in all other cases, the lien may be defeated by the property being deposited with the factor for a specific purpose, for which he is bound to hold it if he take possession of it,—as, where goods were placed in his hands, in consequence of an agreement that they were to be sold for the benefit of a particular creditor (*Weymouth v. Boyer*, 1 *Ves. Jun.* 416). A general lien is held by packers, when they are of the nature of factors, and by insurance-brokers. There is a general lien in favour of bankers—on bills deposited with them for a general account, but not on those deposited for a specific purpose, or on deeds casually left in their offices, after a refusal to advance money on them.

Persons in the situation of being entitled to a lien lose it by relinquishing possession of the property from which they derive it. A factor in a foreign country, however, who has purchased goods for his principal on his own credit, is entitled to stop them *in transitu* after shipment to him; and where the creditor deposits the subject with a third person, apprizing him of the lien, and appointing him to keep possession as his servant, the lien is not parted with. (*Montague on Lien. Paley on Principal and Agent*, 127-153. *Cross on Lien.*)

LIGHTER, a small vessel used for carrying goods to or from a ship in lading or unloading. *Lighterage* is the expenses attendant upon the operation.

LIGHTHOUSE, an edifice constructed near the seacoast, in which lights are exhibited for the guidance of ships. Anciently this purpose was served by fire-towers, where also sacrifices were offered for the safety of the mariners. The most celebrated of the ancient lighthouses was the *Pharos* of Alexandria, erected B.C. 283; its height is stated, though probably with much exaggeration, to have been 400 feet; and it was accounted one of the seven wonders of the world. The most remarkable in modern times are, the *Tour de Cordouan*, erected in 1611, at the entrance of the Gironde in France, the height of which is said to be 186 feet; the *Eddystone*, a circular tower, constructed (1756-59), on a rock distant 4 leagues S.W. from Plymouth Sound; it sweeps up with a gentle curve to the height of 86½ feet; and its utility, beauty, strength, and originality, have shed lustre on the name of the engineer, John Smeaton: and the *Bell Rock*, erected near the entrance of the Tay in Scotland, on the model of the Eddystone, by Mr Stevenson (1812); its height is 113 feet above low water. Besides lighthouses, there are in many places, especially in the estuaries of rivers, “floating lights” attached to vessels moored in certain positions, to indicate the existence of shoals or sunken rocks.

The lights on our coasts generally consist of argand burners, placed on the foci of parabolic reflectors made of silver strengthened with copper; the reflectors being arranged, and the lights exhibited in such a manner that those on the same line of coast should have some essential distinction: thus, some of them are revolving or intermittent, many are fixed, others are placed one above another; some flash once every five seconds, and not a few become alternately red and white. The whole are divided into “harbour lights” and “general lights.” Many of the latter were formerly private property, but they are now almost all vested in public boards, one of which, called the Trinity House, possesses besides a controlling power over all the marine beacons of the United Kingdom.

The Trinity House of Deptford Strond was incorporated by Henry VIII. in 1515 for regulating pilots, erecting lighthouses and beacons, and other objects connected with navigation. It possesses an elegant hall in London near the Tower; and is governed by a master, four wardens, eight assistants, and thirty-one elder brethren, most of them persons of distinction; and there are, besides, numerous inferior members termed younger brethren. The powers of the corporation in regard to lights and other seamarks are at present regulated by an act passed in 1836, 6 & 7 Wm. IV. c. 79. This act invested them for the first time with the supervision of the Scotch and Irish lights; and likewise provided for their purchasing the property of certain others, then in the hands of private parties. The number of English general lights under their immediate management is 74, including 20 floating lights. In 1838, the gross amount of dues levied for lighthouses, vested

in them prior to the act of 1836, was £119,190; for those transferred to them under that act, £49,810; and for buoys and beacons, £13,141; total, £182,141; yielding, after paying charges, a surplus of £55,005; of which £32,562, arising from lights held by them before 1836, was applicable to the relief of poor seamen, widows, orphans, and other charitable purposes, and £22,443 to the account for private lights since transferred to them (*Par. Paper*, 1840, No. 362). The only private lighthouses not yet made over to the Trinity House are those of the Skerries, Spurn Point, and Tynemouth.

In Scotland, the lights are under the management of the "Commissioners for Northern Lights,"—a corporation (38 Geo. III. c. 58) consisting of the Lord Advocate, the Solicitor General, and twenty-three municipal officers. Their services are gratuitous. The number under their charge is 27; and the net amount of dues levied in 1839 was £42,955, applicable, after paying charges, to the erection of new works. They are, besides, vested by the act 6 & 7 Wm. IV. c. 79, with a general charge of the local or harbour lights.

In Ireland, the lights are under the management of the Corporation (52 Geo. III. c. 115), for improving and extending the Port of Dublin, a body consisting of the Lord Mayor and two Sheriffs of Dublin, three Aldermen chosen by the Board of Aldermen, and seventeen other individuals appointed in the first instance by the act of incorporation, but who have the power of filling up the vacancies. The number of public lights possessed by them is 29, besides 16 harbour-lighthouses, including 5 for which no rates are exacted; their gross revenue in 1832 was £42,061. This corporation has likewise a general charge of all the other local lights.

The Scottish and Irish Boards must give six months' notice to the Trinity House before erecting any new lighthouses, or making any alterations on those already erected: notice of any changes must be likewise given to the public through the Gazette and other newspapers (§ 46). In the event of any difference between the Trinity House and the other Boards, the latter may appeal to the Queen in Council.

We have no recent accounts of the local lights; but, including the 16 Irish harbour-lights already noticed, the number in the United Kingdom may be taken at 95; making the total of public and local lights on the British and Irish coasts about 225.

The rates of duty levied on vessels passing within certain limits vary greatly in respect to different lights: for some of the English ones, only $\frac{1}{4}$ d. per ton is charged on British, and $\frac{1}{2}$ d. per ton on vessels belonging to foreign powers with whom we have no treaties of reciprocity; while for others, the charges are as high as 1d. and 2d. per ton on British and unprivileged foreign ships respectively. In Scotland, the charge on coasting vessels (not wholly in ballast) is $\frac{1}{4}$ d. per ton for each time of passing every lighthouse, or deriving benefit thereby, except that on the Bell Rock, for which 1d. per ton is chargeable; on British vessels on foreign voyages, 1d. and 2d. per ton are respectively payable for these lights; unprivileged foreign vessels pay double rates (§ 40). In Ireland, the charge is $\frac{1}{4}$ d. per ton for each light, except on vessels wholly in ballast and without passengers, which are exempted; double rates are payable for unprivileged foreign vessels.

LIGNUM VITÆ. [GUAIACUM.]

LIME, the protoxide of calcium, is found abundantly in most countries, in a combined state with other substances, particularly in limestone, chalk, and marble, which are carbonates of lime. The common method of obtaining it is by the process of *burning*, in which limestone, mixed with coal or charcoal, is exposed to a strong heat; in this way the carbonic acid is expelled, and the product, called *quick-lime*, is the substance in a state of purity. It is white, or of a pale gray tint, opaque, inodorous, and its taste is acrid and alkaline. When water is poured upon quick-lime it heats, cracks, swells, and a bulky white powder is obtained, called *slaked lime*. The limpid, colourless fluid, called *lime-water*, used as an antacid, is prepared by mixing powdered lime with warm water; and what is termed *milk* or *cream of lime*, is merely slaked lime diffused through lime-water. Lime is used in immense quantities in this country as a manure, and as an ingredient in mortar. In several metallurgic processes it is used as a cheap and powerful flux: it is also employed extensively in soap-making, leather-dressing, dyeing, and medicine, besides many other purposes in common life and the arts.

By 36 Geo. III. c. 110, lime and limestone may be shipped and landed coastwise without any customs document whatever.

LIME, the fruit of a tree (*Citrus limetta*) which grows in Spain, Portugal, France, and East and West Indies. In appearance and natural qualities it resembles the lemon, differing only in being smaller, and nearly round, with a smooth rind, and

the pulp not having such a sharp and powerful acid, but being, on the contrary, at and slightly bitter. The flavour of the lime is, however, reckoned superior to that of the lemon. It is used for punch, sherbet, and other liquors.

LIME, or **LINDEN**, a timber tree (*Tilia Europæa*), of which there are several varieties; the most valuable being the "common lime," a large, fast-growing, beautiful tree, reared in most parts of Britain, but thriving best in rich loam, and in warm and rather moist situations. Its wood is soft and weak, but being close grained, delicately white, and of a uniform colour, it is well adapted for all light works that are to be partially painted, and then varnished. Possessing, even in a higher degree than the maple, the property of not warping, it is used for cutting-boards, and for the keys of musical instruments; while, from its holding the tool well, it is employed by carvers for most part of their wooden ornaments; whence the lime is called, by way of eminence, "the carver's tree." The bark divided into the narrow strips called *bast*, is in the N. of Europe extensively plaited into ropes, and worked into the mats in which flax and hemp are imported from the Baltic.

LIMITATION, in the law of England and Ireland, is the expiry of a right through lapse of time. In Scotland, the analogous provision of law is called *Prescription*. Perhaps the most important operation of limitation is its creation of a title to real property, which it does by conferring a positive right on the possessor, and creating a personal exception against other claimants; but it is only as a bar to claims connected with commercial transactions that it can be here considered. Limitation may either be a bar to a substantive claim, or to a particular means of proving it.

By the statutes of Limitations (English act, 21 Jas. I. c. 16; Irish, 10 Cha. I. Sess. 2, c. 6) "All actions of account and upon the case, other than such accounts as concern the trade of merchandise between merchant and merchant, their factors or servants: all actions of debt grounded upon any lending or contract without specialty . . . shall be commenced and sued . . . within six years next after the cause of such actions or suit, and not after." The period of limitation begins to run when the obligation is exigible; and so when credit is stipulated for, its currency commences on the expiry of the credit. It applies to bills and promissory notes, running from the day when they become due. Notes payable on demand are held as exigible from the date of their completion, and the limitation then begins to run. The exception of "such accounts as concern the trade of merchandise" caused considerable discussion as to whether all merchants' accounts and charges for the price of commodities were intended to be exempt from limitation. "But it is now settled, that accounts open and current only are within [the exception of] the statute: that therefore, if an account be stated and settled between merchant and merchant, and a sum certain agreed to be due to one of them, if in such case he to whom the money is due does not bring his action within the limited time, he is barred by the statute" (*Sir E. Tomlins*). In accounts by tradesmen against their customers, limitation runs on each article, so that the creditor can only recover for those sold within the six years. The currency of the limitation may be stopped and a new period commenced, by such an acknowledgment on the part of the debtor as may suffice to create a new agreement. By the 9th Geo. IV. c. 14, to produce this effect, the acknowledgment must be in writing, and it binds only the party making it, and is not pleadable against co-obligants.

LINEN (Du. *Lynwaat*. Fr. *Toile*. Ger. *Linnen*. It. *Tela*. Por. *Panno de linho*. p. *Tela de lino*. Rus. *Polotno*) is strictly cloth woven from the fibres of the flax plant, though the term is now likewise understood to comprehend all kinds of hempen cloth. This manufacture is of the highest antiquity. It appears to have originated in Egypt where the plant is indigenous, and where the mummies are generally found swathed in linen, some of which is stated by Belzoni to be quite as fine as our common muslin, very strong, and of an even texture." Little is known regarding the state or progress of the manufacture among other ancient nations, or during the middle ages; and the period of its introduction into this country cannot be ascertained. In 1175, flax and hemp were classed in England among the titheable productions; and for long afterwards the government encouraged their growth for the supply of the home manufacture; but the greater part of our linens was imported from Flanders and the north of Europe until last century, when the trade rose into some importance, particularly in Scotland and Ireland. It is, however, only within late years that our linen manufacture can be said to have become a truly national branch of industry, a distinction which it owes mainly to the reduction of the duties on foreign flax and hemp, and the adaptation and

application of the inventions of Hargreaves and Arkwright to the spinning of yarn by means of machinery.

In Scotland, at the period of the Union, the linen manufacture, though then styled "the great national staple," was very trifling, and almost wholly domestic. But a board having been appointed (1727) for its encouragement by means of premiums, and bounties granted on the cloth exported, the trade was in course of time greatly extended, so that in 1800 the quantity stamped for sale by the officers of the board was 24,235,633 yards, valued at £1,047,£98, which was exclusive of that woven for domestic use. The operation of spinning,—hitherto altogether performed by women in their own dwellings,—was now in part executed by means of flax mills; and in 1814, some of the mill-spinners became also manufacturers. The subsequent progress of the trade, especially after the reduction of the import-duty on flax in 1825, has been most remarkable. This has been more particularly the case at Dundee, now the chief emporium of the linen-trade of the United Kingdom. In 1814, the quantity of flax imported into that place did not exceed 3000 tons, but in 1841 it amounted to 25,865 tons, besides 4181 tons of hemp, the value of the whole being £905,086; while the population of the town increased in the same interval from about 30,000 to 63,825. The manufactures of Dundee are chiefly of the coarser kinds; but of late years the spinning of fine yarns has been introduced, a part of which is woven in the place, and the remainder exported. The shipments from this port in the year ending May 1841 amounted to 697,295 pieces cloth, of the value of £1,322,835; and 122,064 cwts. yarn, amounting to £488,256; the former comprising 208,415 pieces sheeting; 137,834 pieces sailcloth; 170,581 pieces sacking and bagging; 79,564 pieces dowlas; 72,313 pieces osnaburgs; and 28,588 pieces sundries. The number of spinning-mills in Forfarshire was stated in 1839 to be nearly 100, of which 41, possessing 1695 horse-power, were situated within the town of Dundee. The weavers often work in their own houses, but sometimes in factories,—the master in the latter case furnishing the loom, which is generally the common one with the fly-shuttle. Of late the power-loom has been successfully applied to the weaving of dowlas, sheeting, and other fabrics. Besides Dundee and the adjacent district, the linen-trade is prosecuted extensively in Aberdeen, where there are some very large flax-mills; and in Fifeshire, particularly at Dunfermline, a thriving town which has been long celebrated for the manufacture of damasks, table-linen, diaper, and fine shirting.

In Ireland, the linen manufacture first owed its extension to the jealousy of the English, on account of the progress which that country was making in the woollen manufacture, in the reign of William III., and who, at their instigation, introduced a series of laws which had the effect of crushing the latter, and introducing the former in its stead. A board was afterwards appointed for its superintendence; bounties also were granted on exportation; and, what was of more importance, the consumption of England, as regarded the finer qualities, was virtually secured to the Irish manufacturers by the prohibitory duties imposed on foreign linen. The trade in consequence progressively increased. In 1800, no fewer than 31,978,889 yards were imported from Ireland into Britain, besides 2,585,829 yards shipped to other countries; in 1825, the exports were, to Britain, 52,559,678 yards, to other countries, 2,553,587 yards. Since 1825, no account has been taken at the custom-house of the commercial intercourse between the two islands, which was then placed on the footing of a coasting-trade; but according to a report of the railway commissioners, the shipments from Ireland in 1835 amounted to 70,209,572 yards of the value of £3,730,854. The province of Ulster is that wherein the manufacture is chiefly prosecuted, its principal seat being Belfast; and the cloths woven are mostly of the finer kinds. Spinning machinery was introduced in 1806 or 1808; and in 1839, the number of flax-mills in Belfast was 20, employing 7000 hands. A great proportion of the yarn worked up, however, is sent from England.

In England, various branches of the linen trade are carried on in Lancashire and the West Riding of Yorkshire, as well as in Dorset, Durham, and Somerset; but that part of the United Kingdom is now chiefly distinguished for the spinning of yarn, a branch which has of late risen into high importance, particularly at Leeds, where some of the flax-mills are of the most magnificent description. In 1839, the number was 44; comprising a horse-power of 1259. Of the yarn produced a portion is worked up in the town and adjoining district, but the greater part is sent to other places, especially Ireland and France.

We possess no very recent account of the extent of that part of the manufacture which is carried on in factories. According to returns made by the inspectors in 1835, the number of factories then at work was, in England, 152; in Scotland, 170;

annual amount at from £9,000,000 to £9,500,000, or nearly one-fourth that of the cotton manufacture. [FLAX. HEMP.]

LING, a valuable species of cod (*Lota molta*, Cuv.), having a slender body, usually from 3 to 4 feet in length. Large quantities are caught among the Hebrides, in the Orkneys, and on the Yorkshire coast; in Cornwall and the Scilly Isles; also on the Irish coast. In Zetland, the principal fishing is from May to August; whereas in Cornwall, they are caught in January and February. Besides a portion that is consumed fresh, the fish are split from head to tail, cleaned, salted in brine, washed, and dried: but the demand generally falls short of the quantity cured. The ports of Spain are the foreign markets chiefly supplied. The air-bladders, or *sounds*, are prepared separately, and with those of the cod-fish are sold pickled.

LINSEED (Da. *Horrfrøe*. Du. *Lynsaad*. Fr. *Grains de lin*. Ger. *Leinseed*. It. *Linseme*. Rus. *Semja lenjanoe*), the produce of the flax-plant, consists of small, bright, grayish-brown, slippery, elongated bodies, containing a mealy oleaginous albumen, which yields, by expression, oil in such great abundance that the seed forms for this purpose, as well as for reproduction, an important article of trade. Linseed is preferred when bright and heavy, and especially that which, when bruised, appears of a light or yellowish green colour, fresh and oily. It is produced only in small quantities in the United Kingdom; but nearly 4,000,000 bushels are now annually imported; three-fourths of which come from Russia: the remainder is chiefly from Prussia, Italy, and India; but small parcels are likewise brought from N. America, Holland, Sweden, Denmark, Turkey, and Egypt. About one-fifth of the importations is used in Ireland for sowing, for which purpose the Dutch seed is preferred. [FLAX.]

In Russia, the great seat of this trade, the crop fluctuates exceedingly, the exports varying from about 400,000 to 700,000 Imperial quarters. The principal ports of shipment are Riga and St Petersburg. The chief general distinctions of linseed are those of *sowing* and of *crushing seed*. "The former," says Mr Clark, "is understood to be a select article shipped from Riga, Windau, Liebau, and Pernau, in casks, with official marks warranting the seed to be fresh and fit for sowing: the latter is of various quality, intended to be used and fit for crushing only, and shipped from all ports of Russia, either in bulk, or in mat bags, called 'koola.'

"At St Petersburg but a small part of the annual supply derived from the nearer flax-districts arrives and is ready for shipment in May, June, and the fore-part of July; for the principal part reaches that market from the middle of July till the end of September, and comprises what is called Morshansk and Saratoff linseed, and uses to be of a quality superior to the earlier arrivals. The shipment is made chiefly in the mat bags above alluded to, which are not paid for separately. The article sells there by the chetvert measure, forming the contents of a kool.

"Contract purchases for forward delivery are made in autumn, winter, and spring, either with the whole price agreed for, or part thereof, most frequently 25 to 50 per cent. paid down cash, in advance at once, or by instalments; the remainder being payable on delivery."—(*Russia Trade Assistant: Exports*, p. 70.)

All the seed not exported before winter is sent to Holland to be crushed for oil.

LINSEED-OIL is what is called a drying oil. Cold-drawn, it is greenish-yellow, and more viscid than when hot-drawn. Sp. gr. .934. It is one of the cheapest fixed oils; and is used in the manufacture of paints, varnishes, and printing ink.

LINSEED-OIL CAKE, the substance which remains after the oil is expressed, contains the albuminous and mucilaginous part of the seed, and is used for fattening cattle.

LINSEY, or LINSEY WOOLSEY, a kind of flannel, of which, however, only the woof is composed of wool, the warp being thread.

LIQUORICE ROOTS (Fr. *Bois de réglisse*. Ger. *Sussholz*. It. *Lycoris*), the roots of a perennial plant (*Glycyrrhiza glabra*), a native of the south of Europe, but cultivated in England, particularly at Pontefract, in Yorkshire. They are very long, about an inch thick, flexible, fibrous; of a brown colour, and when fresh, juicy; taste sweet, and slightly bitter. They are extremely apt to spoil, and it is necessary to preserve them in sand, or in some very dry place. Liquorice roots are an article of the materia medica, and are also in demand by brewers and druggists. They are used both in the form of extract and of powder.

LIQUORICE JUICE (It. *Sugo di regolizia*. Sp. *Regaliz en bollos o' pastillas*), called also Spanish juice, black sugar, or *succus liquoritiæ*, is the inspissated juice of the fresh roots just specified; and is imported from Sicily, Italy, and Spain, in cylindrical rolls, covered with bay leaves. It should be quite black, brittle when cold, and break with a smooth glossy fracture, have a sweet taste without empyreuma, and be almost entirely soluble in water. It is used in medicine, particularly in tickling coughs. The Italian is the best; that from Spain is scarcely marketable. About 8000 cwts. are annually imported, almost wholly from Sicily and Italy. Little or no liquorice juice is made in this country, except in Yorkshire, where an extract is prepared under the name of Pontefract cakes.

Refined Liquorice, or rather what is commonly called so, is generally prepared in this country by compounding inferior juice with glue or mucilage. It is in small cylindrical pieces, not thicker than a goose-quill.

LISBON. [PORTUGAL.]

LISPOND, a German weight, generally equal to about 14 lbs.

LITERARY PROPERTY may be defined as the produce of intellectual exertion, published to the world, but in such terms and under such conditions that the right of publication and the benefits derivable therefrom are matter of property. The peculiarity of this species of property consists in its intangible nature, which leaves no room for applying to it the ordinary criteria of possession or occupancy, by which physical property is ascertained; and a peculiar code has thus been rendered necessary for its regulation. A manuscript or a painting, while the former is not printed or the latter engraved, are each viewed as pieces of physical property, subject to the ordinary rules of possession. It is when copies come to be multiplied for publication that literary property is constituted and brought into existence.

The law of copyright is now embodied in 5 & 6 Vict. c. 45. As to all works published after the date of the act (1st July 1842), it extends to the lifetime of the author, and to 7 years after his death; but if these 7 years should expire within 42 years from the first publication, the copyright is to exist till the termination of 42 years from the date of publishing. The copyright of a book published after the author's death, and after 1st July 1842, is to exist 42 years, in the person of the proprietor of the MS. (§ 3). The same period of copyright is extended to the authors of books published before 1st July 1842, and to their representatives; but publishers who have acquired the copyright of them, hold it only to the extent of the old law (viz. 28 years or the lifetime of the author), unless the author, or his representative holding the copyright, consent to accept the benefits of the act, and enter a minute to that effect in the register at Stationers' Hall, when the remaining copyright "shall be the property of such person or persons as in such minute shall be expressed" (§ 4). Where the holder of a copyright after the author's death refuses to give the world the benefit of the work, the judicial committee of the privy council may grant a license to publish it, on its being shown to be advantageous to the public (§ 5).

Entry at Stationers' Hall.—Proprietors of the copyright of books to be published may enter in the register of the Stationers' Company, the title, time of publication, name and abode of publisher, and the name and abode of the proprietor of the copyright, or of any portion of it, defining what portion: 5s. is payable to the company's officer (§ 13). Any person aggrieved by such an entry, may have it corrected by application to any of the courts at Westminster Hall (§ 14). The register may be consulted by any one, on payment of 1s. for each entry inspected. A certified extract may be obtained on payment of 5s. (§ 11).

Copies to Public Libraries.—To the British Museum, a copy of each book must be sent, on the best paper used in the impression, with all plates, &c., that may belong to it, finished in the best manner, and a like copy of every subsequent edition, if there be alterations. If the work be published within the bills of mortality, the delivery must be within one month—if elsewhere, within three (§ 6). The following libraries are entitled each to a copy of the ordinary impression of every book:—The Bodleian, at Oxford; the Public Library, at Cambridge; the Advocates' Library, at Edinburgh; and Trinity College Library, at Dublin. The book must be given within a month after any demand in writing by the proper officer of the Stationers' Co., or by a librarian of the privileged library, demanding the copy, the notice being given within a year after the publication (§ 8). The copy for any library may be delivered to the librarian, a receipt being obtained from him (§ 9). The penalty for not delivering each copy is, besides the value of the copy, a sum not exceeding £5, recoverable either summarily before two justices, or by an ordinary action (§ 10). When entry is omitted, in the case of a book published after the date of the act, the remedies specially conferred by the act for infringement of copyright are lost (§ 24).

Constitution and Transmission of Property.—The man who projects and composes a book is the proprietor of the copyright, unless he have conveyed it away. A simple method of conveyance is appointed by the act, viz. an entry of assignment in the register at Stationers' Hall (§ 13). The law was formerly in a very doubtful state as to proprietorship, where the author was employed by publishers; and especially in the case of contributions to periodicals and works of reference. It has now been distinctively fixed by the following clause in the new act:

"That when any publisher or other person shall, before or at the time of the pass-

ing of this act, have projected, conducted, and carried on, or shall hereafter project, conduct, and carry on, or be the proprietor of any encyclopædia, review, magazine, periodical work, or work published in a series of books or parts, or any book whatsoever, and shall have employed or shall employ any persons to compose the same, or any volumes, parts, essays, articles, or portions thereof, for publication in or as part of the same, and such work, volumes, parts, essays, articles, or portions shall have been or shall hereafter be composed under such employment, on the terms that the copyright therein shall belong to such proprietor, projector, publisher, or conductor, and paid for by such proprietor, projector, publisher, or conductor, the copyright in every such encyclopædia, review, magazine, periodical work, and work published in a series of books or parts, and in every volume, part, essay, article, and portion so composed and paid for, shall be the property of such proprietor, projector, publisher, or other conductor, who shall enjoy the same rights as if he were the actual author thereof, and shall have such term of copyright therein as is given to the authors of books by this act ; except only that, in the case of essays, articles, or portions forming part of and first published in reviews, magazines, or other periodical works of a like nature, after the term of 28 years from the first publication thereof respectively, the right of publishing the same in a separate form shall revert to the author for the remainder of the term given by this act ; provided always, that during the term of 28 years the said proprietor, projector, publisher, or conductor shall not publish any such essay, article, or portion separately or singly without the consent previously obtained of the author thereof, or his assigns : provided also, that nothing herein contained shall alter or affect the right of any person who shall have been or who shall be so employed as aforesaid to publish any such his composition in a separate form, who by any contract, express or implied, may have reserved or may hereafter reserve to himself such right ; but every author reserving, retaining, or having such right, shall be entitled to the copyright in such composition when published in a separate form, according to this act, without prejudice to the right of such proprietor, projector, publisher, or conductor as aforesaid. The entry of such works in series may be made at Stationers' Hall, at the commencement of the issue, once for all" (§ 11).

Copyright is declared by the act to be personal property (§ 25).

Remedies against Piracy.—The remedy is by an ordinary action of damages, against any party publishing or selling without license a work belonging to another, or importing copies of it from abroad (§ 15). Where a person pursued for piracy intends to question the pursuer's title, he must send specific notice before trial, stating the facts as to composition and proprietorship, on which he founds (§ 16). All actions must be commenced within twelve months after the cause of action has arisen (§ 26). Pirated copies of books become the property of the owner of the copyright (§ 23). Any person accessory to importing for sale or hire copies of books in which there is copyright, on conviction before two justices of peace, forfeits for each offence £10, and double the value of the copies imported. Officers of customs and excise are authorized to seize such illegally imported copies ; and, on the recovery of the penalty, £5 goes to the officer seizing,—the remainder to the proprietor of the copyright (§ 17).

It is sometimes very difficult to determine whether a copyright has been infringed, and how far. In the case of books of reference, especially those belonging to the exact sciences,—in road-books, calculation-tables, and almanacs, it will often happen that parties cannot go over the same ground without producing the same result, so that identity is not in every case (as in ordinary literary works) proof of plagiarism. The difficulty, however, is greatly overcome by keeping in view the principle at the foundation of literary property,—that no man is entitled to make use of the labours of his neighbours for his own behoof. The chief difficulty in such case rests in the evidence of adaptation, and this must often be incidental,—it will arise from peculiarities in order and method which the plagiarist has been found to have mechanically employed without knowing their application ; from the use of exclusive information, to which the plagiarist had no access ; and it may even arise in the adoption of the typographical errors of the original. The most clear evidence generally obtainable, is the distribution of part of the original work in the printing-office as "copy" to the compositors.

International Copyright.—By a late act, copyright may be secured in works first published abroad, if the publication have been in a country which grants a reciprocal privilege to books first published in the United Kingdom (1 & 2 Vict. c. 59). The privilege is proclaimed by order in council. It cannot exceed the amount of copyright privilege which the acts allow to the publications of this country (§ 1), but

for any shorter period that the order in council may direct (§ 7). The book, name and place of the author, and time and place of first publication, must be entered at Stationers' Hall, and a copy must be deposited in the British Museum within a time specified in the order (§ 1). No copyright in a work published abroad can be enjoyed in the United Kingdom, except in terms of the Statute, which includes music, maps, charts, and plans (§§ 13, 16).

Dramatic Compositions there is now, by 3 & 4 Wm. IV. c. 15, a copyright as to performance on the stage. It extends absolutely to all pieces not printed or published at the passing of the act, and to all that have been printed and published at any time not more than ten years before the date of the act (10th Wm. IV. c. 33), in both cases for twenty-eight years from the date of publication, and during the author's life. By 5 & 6 Vict. c. 45, above mentioned, the copyright extended by the act to other literary property is extended to dramatic compositions: and it is provided that an assignment for publication of a dramatic composition is not to convey the right to represent it (§§ 20, 21). The penalty for infringing this species of copyright is 40s., or damages to the extent of the sum cleared by the representation, and double costs.

Musical Compositions there is a copyright which, by §§ 20 & 21 of 5 & 6 Vict. c. 45, is made precisely the same as that in dramatic compositions.

Lectures.—Another late statute (5 & 6 Wm. IV. c. 65) constitutes a copyright in lectures delivered, which are not to be published without the lecturer's consent, by any persons who have obtained liberty to attend them, through the payment of a fee by any other unauthorized person. The privilege extends by the statute to a limited period of copyright, which, at the time the act was passed, was 28 years. There is no mention of this species of copyright in 5 & 6 Vict.

LARGE (Fr. *Litharge*. Ger. *Glätte*), a semi-vitrified oxide of lead, in the form of small shining heavy scales, or more or less agglutinated masses. It is produced in the purification of silver from lead, and the refining of gold or by means of this metal. According to the degree of fire and state of fusion, it has a pale or a deep colour,—the one is called litharge of silver, and the other of gold. Litharge is employed in medicine, and by potters, glass-painters, and others. About 500 tons are annually exported, chiefly to France and Russia.

LUS (Fr. *Tournesol*. Ger. *Lackmus*), a violet-blue dye, prepared chiefly from a lichen (*Lecomora tartarea*), which grows in the Canary and Cape Verde Islands. It is imported in small cubical cakes, of a dusky blue colour, lightly pulverized. It is employed to stain marble; also as a chemical test of being reddened by acids, while the blue is restored by alkalis; for this purpose employed either in the form of a tincture, or of unsized paper coloured with it. **LE**, a French measure of capacity equal $1\frac{1}{2}$ Imp. pint nearly.

LE, the integer of account in the old system of France, is equivalent to 9*½*d. and 8*½* livres = 80 francs. Livre is also the French name for a pound.

The livre usuel = 1 lb. 1 oz. 10*½* drams avoird.

LYD'S, the name of a subscription coffeehouse in London, celebrated on account of its being the office of the Society of Underwriters. [**INSURANCE, MARINE.**] Prior to the late fire, it was situated in a gallery of the Royal Exchange, since it has been removed to the South Sea House. Few or none of the commercial concerns of Britain have excited in a higher degree the admiration of intelligent persons. "The establishment of insurances at Lloyd's," says Baron Dupin, "rendered signal services both to the commerce of the British empire and to other states. The society has agents in most of the principal ports of all the world; it makes public the events, both commercial and maritime, and learns through their means: these accounts are received by the public confidence which nothing for more than a century has tended to destroy." "Lloyd's," says Von Raumer, "close to the dial which tells the hour, is one of the most interesting here, which tells the direction of the wind, and is connected with a weathercock on the roof. Intelligence of the arrivals and departures of vessels, of the existence and fate of vessels in all parts of the world,—reports from consuls and commissioners resident in every foreign town,—newspapers and letters from every country, are here to be found, arranged in such perfect and convenient order, that the entire actual state of the commercial world may be seen in a few minutes, and any of the countless threads that converge to this centre may be traced out with more or less minuteness. The whole earth, or the whole world, is here." Prussian traveller's description refers to the rooms in the Old Exchange, but their general characteristics will of course be preserved in the new edifice.

commercial machinery of the earth, appeared to me to be placed in the hands of the directors of Lloyd's coffeehouse."

In order to become a subscriber to this institution, the candidate must be proposed by six members, and afterwards accepted by the managing committee. The rooms are open for the transaction of insurance business from 10 A. M. to 5 P. M.

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

For many years a committee of gentlemen connected with Lloyd's has superintended a registry of the qualifications of ships; which, upon the reports made them by surveyors, are ranked in different classes, and a preference given to employment and insurance, according to the place assigned to them. Until 1834, the age of the ship was held to be conclusive evidence as to her deterioration without reference to original quality or repairs; but this regulation having led to the building of ships with little regard to durability, and to the application of repairs as sparingly as possible, the system of classification was in that year thoroughly reformed. Ships are now classed according to their real and intrinsic qualities at the time of survey; and thus every inducement is presented to build them in a substantial manner, and to give them thorough repairs as often as needed. The rules for the guidance of owners are stated in detail in the Register Book. The principal are the following:—

FIRST CLASS SHIPS.—*First Description* comprises all which have not passed a prescribed age, provided they are kept in a state of complete repair and efficiency; and they are designated by the letter A (§ 33).

The period of continuance in this class varies from four to twelve years, according to the original construction and quality of the vessel, the materials employed, and the mode of building; but after the expiration of the prescribed period, ships are permitted to remain in this rank, or to be restored thereto for a further limited period, on the conditions after mentioned.

If, on the termination of the period of original designation, a shipowner should wish to have his ship remain on the letter A, he is to send a written notice thereof to the committee, who then direct a special survey to be held; and if, from the report of such special survey, the ship should appear to be in all respects in a sound and efficient state, and to have preserved her original form unaltered, the committee will continue such ship on the letter A for such further period as they may think fit,—not exceeding, however, one-third of the number of years which had been originally assigned (§ 54).

If, at any time before the expiration of two-thirds of the number of years, beyond the period which ships may have been originally assigned to remain in the First Description of the First Class, an owner be desirous to have his ship restored to that description, such restoration (after survey and repairs) will be granted for a period not exceeding two-thirds of the time originally assigned for the remaining therein; the same to be calculated from the date of such repairs (§ 55).

If, at any age of a vessel, an owner be desirous to have the ship restored to the First Description of the First Class, such restoration (after survey and repairs) will be granted for so long a period as may be deemed expedient by the committee, not exceeding in any case the term of 5 years (§ 57).

On the same principle of giving every proper advantage to ships which shall be actually proved to be superior of their class, and in excellent condition, ships which have been restored to the class A shall be entitled to an extension of the time; but the term of such extended continuance shall be limited to a period not exceeding one-third of the number of years for which the ship may respectively have been restored, without any reference whatever to the period originally assigned to them (§ 59).

Second Description comprises all ships which, having passed the prescribed age, but have not undergone the repairs which would entitle them to be continued in or restored to the First Description, or having been continued or restored, and the additional period thus assigned having expired,—appear on survey to be still in a condition for the safe conveyance of dry and perishable cargoes; and they are designated by the diphthong AE; but such of the ships of this class as are found on survey to be of superior description, being fit for the conveyance of dry and perishable goods to and from all parts of the world, are distinguished by an asterisk, thus prefixed, *AE (§ 60).

For the purpose of continuing a ship in this class a careful survey is required annually, or on the return from every foreign voyage; but if not surveyed within twelve months after entering the Second Description of the First Class, such ship having been during that time in some port in the United Kingdom, the character will be omitted until such survey be held; or, as the case may be, she will be allowed to pass into the class E (§ 61).

British North American built ships, and ships built in India, are subject to special rules of classification (§§ 62, 63, 70).

SECOND CLASS SHIPS comprise all found on survey unfit for carrying dry cargoes, but perfect for the conveyance to and from all parts of the world of cargoes not in their nature subject to sea-damage, and they are designated by the letter E. Subject to occasional inspection, ships are continued in this class so long as their condition shall, in the opinion of the committee, entitle them thereto (§§ 64, 65).

THIRD CLASS SHIPS comprise those in good condition, and found on survey fit for the conveyance on short voyages (not out of Europe) of cargoes in their nature not subject to sea-damage; and they are designated by the letter I (§ 66).

STEAM SHIPS require to be surveyed twice in each year, when a character is assigned to them according to the report of survey as regards the classification of the hull and materials of the vessel. That, with respect to the boilers and machinery, the letters "M C" are inserted in the Registry Book, when at those periods the owners have delivered to the surveyors the certificate of a competent master-engineer that they are in good order (§§ 78, 79).

terior of all classes of vessels are designated by the figures 1 and 2,—1 signifying that the vessel is well and sufficiently found, 2 that she is deficient in either quantity or quality. Thus, "1" denotes a twelve-years ship of the first description of the first class, with stores well and sufficiently found.

Insurance of damages to ships is subject to special regulations; but the class of a ship is never altered before communicating in writing with the owner, master, or agent (§ 21-25).

Office of Lloyd's Register Society is 2 White Lion Court, Cornhill, London. The subscription is £3, 3s. per annum, for which a Register Book and Supplements are delivered annually. For the year 1841-42, there were of class A, 5961 ships; B, 3568; C, 890; D, 54; none assigned, 1856; in all, 12,329.

LOAN FUND SOCIETIES. [MAGNET.]

LOAN FUND SOCIETIES, benevolent associations for accommodating the indigent poor with small loans. Societies of this kind have been long common in Ireland; and Mr Inglis, in his "Ireland in 1834," testifies to their utility. Since that year they have, under the protection and regulation of a new statute, a "Central Loan Fund Board" established in Dublin, been greatly increased. At the beginning of 1841, the number enrolled under this Board was 243, which included a number of numerous societies in connexion with a London association termed the "Irish Reproductive Loan Institution." Of these 243 societies, 215 had made returns to the board, showing that in 1840 the amount circulated by them was no more than £1,164,046; the number of borrowers, 463,750; the profit, after paying interest to depositors and expenses of management, £15,838; deducting from which the interest of 17 societies, £361, left of net profit, £15,477. A few of these societies are of the nature of *Monts de Piété*, but in general they are petty banks, receiving on deposit the small savings of one class, and lending them out to another class; each individual borrower giving two joint-securities. Sometimes funds are raised by deposits from the gentry, free of interest, but more commonly on securities bearing 5 or 6 per cent. The managing committee is formed of the clergy and others, who act gratuitously; and the net profit is appropriated to a dispensary, school, clothing and fuel for the poor, or supplying indigent farmers with seed at prime cost. The general tendency of these associations appears to engender and foster habits of industry, sobriety, and punctuality; and the board are of opinion that the prosperity of the system is in no small degree attributable to the societies being upheld by their own resources and exertions." For a fuller account of the working of the system, we must refer to the annual reports of the board presented to Parliament.

In England, these societies are mostly confined to the metropolitan district; and the accounts laid before Parliament in 1841 by Mr Pratt, the barrister appointed to revise the rules of savings banks, show their number on 31st December 1840 to have been only 45; the amount circulated in the previous year, £67,711; and the number of borrowers, 11,438. Neither the English nor the Irish accounts show the proportional amount of the loans repaid by the securities.

In Ireland, these societies are regulated by the act 6 & 7 Wm. IV. c. 55, as amended by the act 1 & 2 Vict. c. 78. These acts provide for the establishment of a Central Board in Dublin; the revision of the societies' rules by a barrister; the limitation of loans to £10 at one time, and the interest to 6d. a-pound for 20 weeks; the appointment of directors, managers, and trustees; the exemption of documents from stamp-duty; the recovery of the loans before justices; and a variety of other rules as to their management, safety, and good order. In England, the regulating statute is 3 & 4 Vict. c. 12, which contains provisions somewhat similar; allowing, however, a loan of £5 to one individual, and limiting the interest to 5 per cent.

The loan society system is not practised in Scotland.

LOBSTER, a long-tailed crustaceous animal (*Astacus marinus*) found in abundance on the rocky coasts of Britain and other parts of Europe, particularly Norway, whence large quantities are brought to London: the number annually sold at the London market is nearly 2,000,000. They are caught by traps or pots made of twigs, lined with garbage; also by baited nets; and in some countries by torch-light, the aid of a kind of wooden forceps. In summer, when they deposit their eggs, they are found near the shore; in winter they are seldom taken in less than 15 fathoms. A sizeable animal is from 1 to 2 lbs. in weight.

Lobsters must be taken on the coast of Scotland between 1st June and 1st September, under penalty of £5 for each offence; 9 Geo. II. c. 33, § 4.

Lobsters, however taken or imported, may be landed in the United Kingdom without licence, entry, or warrant; 3 & 4 Wm. IV. c. 52, § 2.

LOCKS (Fr. *Serrures*. Ger. *Schlösser*. It. *Serrature*. Por. *Fechaduras*. Rus. *Sp. Cerraduras*) are in this country principally manufactured at Wolverhampton in Staffordshire; but a large share of the trade is likewise possessed by

quency from observations of the log. It is preserved daily from the time these are first recorded. It also contains the state of the weather, currents, position of rocks or shoals, seeing or speaking other vessels, all matters relating to the ship's *place*, not only for present commercial matter of intelligence, or of evidence in case of future inquiry. The distance run, computed from the log-book, termed by seamen *dead reckoning*, gives an approximative estimate of the ship's position, which is maintained until an opportunity is afforded of taking observations of longitude or of approaching land. Men-of-war steamers keep two log-books, the ship's log, and an account of the engine.

LOG WOOD (Fr. *Bou de l'ampêche*. Ger. *Blauholz*. It. *Campêche*), a dyewood obtained from the *Hamatarylon Campêche*, which grows in Campeachy and Jamaica, especially the former, the finest wood is procured. It is hard, heavy, of a deep orange colour, astringent taste, and peculiar odour; and is brought to us in billets, which are afterwards reduced to chips. Logwood is extensively used for compound colours, but its chief use is for blacks, and certain an extract from it is also used in medicine. From 25,000 to 30,000 tons annually imported,—nearly one-fourth of which, however, is re-exported from Prussia, and other parts of northern Europe.

LOMBARD, a bank for lending money on pawn.

LOSS. [INSURANCE, MARINE.]

LOTTERIES, PUBLIC OR STATE. The first English lottery was established in 1568, for the benefit of the harbours and other works. Licences for lotteries were afterwards occasionally granted; and in 1694, state-lotteries were established in aid of the finances. The principle upon which the public lottery was conducted was that of selling a certain number of chances or tickets by lot a part only of the money collected among a small number of holders. The immorality of the government in thus encouraging gaming among the people, and misleading them from those habits of industry essential to the prosperity of a commercial nation, soon became a subject of public concern, and in course of time was forced upon the attention of Parliament. A Committee of the House of Commons reported, "that by the effect even under its present restrictions, idleness, dissipation, and poverty—the most sacred and confidential trusts are betrayed,—domestic affections destroyed,—madness often created,—crimes subjecting the perpetrator to the punishment of death are committed,—and even suicide itself is not infrequently fully appear by the evidence submitted to the House."—"No mode appears to your Committee so burdensome, so pernicious, and so wasteful as the lottery. Notwithstanding this just denunciation, government persisted in raising a quarter of a million annually by contributions which, to use the words of Mr. Say, were in most cases taken "from the bread of misery, if not of crime," until 1823, the year when the last act was sanctioned for the sale of lottery-tickets. This act likewise contained provisions for the

e, vol. iii. p. 249). Lotteries are also (or were lately) sanctioned for public uses in several parts of the United States.

BEC, one of the Hanseatic states, consists of a town and small territory, chiefly at the mouth of the Trave, between Holstein and Mecklenburg. Area, including detached lands shared with Hamburg, 130 sq. miles. Population, 46,500; the city being 26,000. The government is vested in a senate and house of commons.

It is clean, cheerful, and pleasantly situated, in lat. 53° 52' N., long. 10° 41' E., on an arm between the Wakenitz and Trave, about 10 or 12 miles from the mouth of the latter, at Travemünde, its port, with which it communicates by means of lighters and steamers. Though by no means so important as formerly, it still may be considered a thriving town. It has various small manufactures, a considerable share of the carrying trade in Russian produce, and an extensive transit trade, particularly with Hamburg, distant only 36 miles, with which it is connected by means of the Trave and a canal. Exports, chiefly corn. Imports, wines and silks, British manufactures, and colonial produce. From Travemünde steam-sail regularly for Petersburg, Copenhagen, and Stockholm.

MEASURES, WEIGHTS, MONIES, DUTIES, &c.

Measures and Weights.—The ell of 2 feet = 48 in. inches.

Ahm of 20 viertels, 40 stubgen, or 80 kan-1-87 Imp. gallons.

Met of wheat or rye of 8 dromts, 24 barrels, sheffels = 11-04 Imp. quarters: the last similarly divided, = 12-95 do.

Sentner of 8 lisponds or 112 Lubec lbs. = 106-85 lbs. avoird. ; and 100 Lubec lbs. = 106-85 lbs. avoird. Gold and silver are weighed with the same mark of 3608 troy grains.

Money.—Accounts are stated in marks of 16 pfennings, each of 12 pfennings Lubec currency. The mark, valued at the rate of 34 to the Cologne mark weight of fine silver, is equal to 16 marks 11½ schill. = £1. The mark contains 3 marks. Foreign exchanges are stated through the medium of Hamburg, where banco, theagio on which, compared with the Lubec currency, is usually about 23 per cent.

Revenues.—The public revenue is about 750,000 R. the debt in 1836 amounted to 5,500,000 R. but it has since been reduced.

Duties.—On imports, ½ per cent. *ad valorem*; on exports, *nil*: the transit duty is from ¼ to ½ per cent.

Treaty with Britain.—Since the article HAMBURG was written, a treaty supplementary to the one described under that head has been published, which provides for a more liberal intercourse

than formerly with the Hanse Towns. It is dated London, August 3, 1841.

Art. 1. Provides that all British vessels entering the Hanseatic ports from countries not the dominions of Britain, shall not pay other or higher dues than are exigible on Hanse vessels in similar circumstances; and the duties on their cargoes shall be the same as if such cargoes had been in Hanse vessels. On the other hand, Hanse vessels from Hanse ports shall be admitted to the ports of all British possessions, on payment of the same dues as are exigible on British vessels in similar circumstances; and the duties on their cargoes shall be the same as if such cargoes had been in British vessels.

Art. 2. Britain likewise agrees that all goods, the produce of the Hanse states, the other German states, or of the German Customs Union, which may be imported in any foreign vessel from the Hanse ports, or any port on the Elbe or Weser, into the ports of the British possessions abroad, including Gibraltar and Malta, shall also be permitted to be imported from the Hanse ports into those of said B. P. abroad, in Hanse vessels; and such goods imported into, and all goods exported to any foreign country whatever from the ports of said B. P. abroad, in Hanse vessels, shall pay the same duties as if they were imported or exported in British vessels.

CCA, an Italian duchy, situated on the W. coast, immediately N. of Tuscany. 420 square miles; population, 168,198. The capital, which bears the same name, has a population of 24,092. Government, an absolute monarchy.

The country is naturally divided into the Apennine region; the valley of the Serchio, including the highly cultivated plain of Lucca; and the coast district, in part marshy, but producing good crops. Owing chiefly to the minute subdivision of land, there are no fewer than 25,000 petty towns, and from this circumstance the country is the most densely peopled of Italy, and of Europe. The Lucchese are, however, industrious and shrewd; and many of them emigrate to foreign lands, where they work as stucco-image and plaster-cast makers. The duchy, mainly agricultural, possesses a few manufactures of silks, woollens, cottons, linens, paper, &c. Its commercial intercourse is principally with Tuscany, especially Leghorn, between which place and the town of Lucca, by way of Pisa, a railway is in progress. Exports, mostly olive-oil (best in Italy), with silk, timber, chestnuts, and fish. Imports, grain, seeds, wines, spirits, hemp, flax, cottons and other manufactured goods, tropical produce, salted provisions, and so on. "The export trade," says Dr Bowring, "is about four millions of francs (£160,000); oil amounts to 800,000 fr., and that of fresh fish gives to the district of Viareggio an annual 250,000 fr. The imports nearly balance the exports; but considerable quantities of bullion are sent to the duchy in payment of articles, of which (from their not being charged with export duty) no account is kept at the customhouse."—(*Report on Italian States*, p. 66.) The only port of the duchy, which possesses a roadstead frequented by coasting-vessels.

MEASURES, WEIGHTS, MONIES, &c.

Measures and Weights.—The woollen braccio = 22-8 in. inches; the silk braccio = 22-8 in. inches; 4 braccia = 1 canna. The oil is reckoned generally at 24 lbs. peso grosso = 7 Imp. gallons. The wine measure is the m. barile of 20 fiasci. The corn staja = ¾ bushel. The pound = 5213½ troy grains;

but the pound "peso grosso" = 11 Leghorn lbs. = 8-234 lbs. avoird.

Money.—Accounts are generally stated in Lucchese lire of 20 soldi, each of 12 denari di lira. Payments are made chiefly in the money of Tuscany; and 6 lire 6½ soldi of Lucca are reckoned equal to the Leghorn pezza of 8 reals. Foreign

exchanges and the usances of bills are regulated entirely by the custom of Leghorn.

Tradesmen sometimes reckon in gold crowns (*scudi d'oro*) of 20 soldi, each of 12 denari d'oro. The gold crown = 7½ lire.

Principal Duties.—Cotton and linen manu-

factures, 10 per cent. *ad valorem*; cotton twist, L3 per 100 lbs.; woollens and hardware, 12 per cent.; coffee and loaf-sugar, L15 per 100 lbs.; brown sugar, L8 per 100 lbs.

Finances.—The state revenue is about £80,000. There are no public debts beyond pensions, &c.

LUGGER, a vessel with two or three masts, up and down which lug-sails are made to traverse, so that they may be readily set or taken in without going aloft. Slight, quick-sailing craft of this kind were used as privateers by the French in the last war. On the E. coast of England strong-built luggers are much employed in the herring and mackerel fishery.

LUMBER, a term applied, chiefly in America, to timber through all its preparatory stages, from its growing in the woods until it be put into the hands of the artificer for the purpose of being worked up. It occurs principally in the form of scantling, deals, inch-thick boards, clap-boards, shingles, staves, and hoops. Varieties of pine constitute the great bulk of what is usually denominated lumber in British America.

LUSTRE, a plain silk and worsted fabric, similar to poplin.

LUTESTRING, a plain, stout, silken fabric, forming, with *gros de Naples*, of which indeed it is merely a fine kind, "the staple of silks."

LYCOPodium, an inflammable powder used in fireworks, obtained from a common moss-like plant of the same name.

M.

MACAO, a Portuguese settlement in China, lying in lat. 22° 12' N., long. 113° 34' E., on the west side of the entrance of the Canton river, on a peninsula projecting from a small territory separated from the continent by river-channels. Circuit about 8 miles. Population said to be 30,000, mostly Chinese. It is jointly ruled by Portuguese officers and a Chinese mandarin,—the latter possessing, however, all the real power.

This place was granted to the Portuguese in 1586, in return for assistance afforded by them against pirates that had infested the coast; and it was at one time the centre of their intercourse with China, Annam, Siam, and Japan; but having suffered from that supine sloth which has involved all their Eastern empire, its trade is now quite inconsiderable. Of late, its chief or rather sole importance has been derived from its containing the dwellings of the Europeans trading with Canton, at which place they are only allowed to reside during the tea-season. Even at Macao the Portuguese and other strangers are jealously watched by the Chinese, who have a fortified barrier across the isthmus, beyond which foreigners are not allowed to pass. A ground rent of 600 taels per annum is paid for this settlement by the Portuguese to the Chinese government, which, besides, levies a duty on the shipping. [CHINA.]

MACCARONI is composed of wheaten flour, flavoured with other articles, and worked up with water into a paste, to which, by a peculiar process, a tubular or pipe form is given, in order that it may cook more readily in hot water; that of smaller diameter than macaroni (which is about the thickness of a goose-quill) is called *vermicelli*, and when smaller still, *fedelini*. The finest is made from the flour of the hard-grained Black Sea wheat. Macaroni is the principal article of food in many parts of Italy, particularly Naples, where the best is manufactured, and from whence also it is exported in considerable quantities. In this country macaroni and vermicelli are sometimes used in soups.

MACE (Du. *Foely*. Fr. *Macis*. Ger. *Muskatenblüte*. Por. *Marcis*), a spice composed of the membranous tunic or covering investing the black shell in which the nutmeg is contained, and is first disclosed on the fruit ripening and bursting. When good it is thin, flexible, oily, of a bright reddish-yellow colour, has the spicy odour of the nutmeg, but more pungent; and an aromatic, bitterish, acrid taste. That which is brittle, pale, and of little smell or taste, is to be avoided. Mace, though chiefly used for culinary purposes, is occasionally employed medicinally as an aromatic and stimulant. About 20,000 lbs. are annually entered for home consumption. [NUTMEG.]

MACHINERY for cotton-spinning and weaving is constructed on a great scale at Manchester; flax-mills at Leeds; marine steam-engines at Glasgow; and woollen and lace machines, locomotives, and an innumerable variety of other articles, at many places in Britain. We possess no means of computing the total extent of these manufactures; but in a late Report by a Committee of the House of Commons on the exportation of machinery (*Par. Paper*, 1841, p. 230) it is estimated that in eleven towns in Lancashire there are 115 mechanical establishments,

of capital invested, £1,515,000 ; and of horse-power, 1811 ; the whole of employing 17,382 hands. The trade owes its origin mainly to the discovery of Hargreaves, Arkwright, Crompton, Watt, and Cartwright ; and it is almost wholly by the demands created in different branches of industry by inventors, and others in the same walk, within our own country, as the export of machinery (excepting engines and common mill-gear) has from an early period been jealously prohibited, or restricted within narrow limits, with the view of protecting the home manufacturers. This began in 1696, by the prohibition of exporting the stocking-frame ; other acts were passed in 1750 and 1774 ; after which the law appears to have been in much favour, as prohibitory acts then followed with great rapidity, and descending in some cases to very trifling objects. The existing enactments will be found under the head CUSTOMS REGULATIONS, 4 Wm. IV. c. 52, § 104) ; but, in pursuance of the recommendation of a Select Committee in 1825, a discretionary power of relaxing the law was in 1825 given to the Board of Trade, upon whose report an export-license (subject to a duty of £2, 2s.) is issued by the Treasury. The former decides upon each application to export according to its merits ; and the rule adopted is described by Mr. Hume, their former secretary, as follows :—" The license is freely given in cases that are merely for dressing and preparing the fibrous substance, such as cotton, flax, or silk ; that while this substance remains only as a quantity of raw cotton or a quantity of wool, the prohibition is kept back and not allowed to operate ; but that in the case of any machine which once takes the very first movement in the dividing of this substance preparatory to the spinning, the prohibition is strictly enforced, and no license ever given. The retained part, therefore, of the law which applies to the spinning or the dividing of the substance for the purpose of spinning ; the handing it over, as it were, to a spindle to be spun."—

The policy of still farther opening up the export-trade has been much discussed, especially since the Report of the Committee of the House of Commons in 1825. This committee did not state any opinion upon the subject ; but they laid before Parliament a mass of evidence, adduced from experienced customhouse officers, manufacturers, and engineers, which renders it no longer doubtful that the " bonds and fences " by which the shipment of machinery is restrained, are futile and unnecessary, but hurtful. It is shown to be impossible to prevent the illicit exportation of the forbidden kinds, more especially of the important kinds which are almost all of a minute description, and in separate pieces, such as spindles, and rollers ; further, that the prohibitory system, serving as a check upon foreign machine-making, has tempted capitalists to embark in the trade ; and that in Belgium, Prussia, and many parts of Germany, France, Switzerland, and the United States, now abound in machine-factories, full of British tools, superintended by British workmen, and supplied early and systematically with drawings, models, and patterns of British machines, as may be deemed best, of all new and improved apparatus ; and that the means the mechanists of those countries—Belgium especially—not only supply in most departments the home demand, but are beginning to export to the United States and to S. America. In this way British inventors are compelled either to work abroad, or to enter into engagements with existing establishments for the sale of their inventions, and enormous loss is sustained on the field of labour of this country, which, but for these restrictions, from its natural and acquired advantages, have been the machine-shop of the world. It is likewise shown that many other facilities besides the possession of the most improved machinery, require to be blended and enjoyed by foreign manufacturers if they can rival those of Britain ; such as highly skilled, steady, and persevering artisans—minute subdivision, with at the same time combination and division of labour—contiguity of manufactories to the machine-shops, and the free exchange of ideas thereby occasioned—the proximity of a cheap and plentiful supply of fuel and iron—the best markets for the raw material, and extended facilities for manufactures—abundant capital—the first use of inventions—and, lastly, security of property and freedom of industry.

The declared value of the shipments of machinery and mill-gearing in 1822 was £100,000 ; in 1825, £212,420 ; in 1830, £208,767 ; in 1835, £307,951 ; and in 1840, £400,000. This last sum included £294,148 for steam apparatus sent principally to Germany, and other parts of the European continent, and to India ; £100,000 for all kinds of mill-work and machinery allowed to be exported by law, generally to most parts of the world ; and £71,244 for machinery exported under license, and sent chiefly to Germany, Russia, Belgium, and France.

The importation of foreign inventions is encouraged by the allowance of a patent for a limited time to the first user.

MACKEREL, a fish (*Scomber scombrus*) well known for its beauty and its intrinsic value as an article of food. It is caught on some parts of our coast in every month of the year, but those taken in May and June are generally preferred. They are found in abundance on the south and south-east shores of England; and the mackerel season at the various fishing towns is one of great bustle and activity. They are plentiful on the Devonshire coast, and swarm in West Bay about June. On the Hampshire and Sussex coasts they generally arrive in March. At Lowestoff and Yarmouth, the great harvest is in May and June. Their ordinary weight is about 2 lbs. each. The largest are not considered the best. They require to be eaten very fresh, as they soon become unfit for food; and on this account they are allowed to be cried through the streets of London on Sundays,—a practice which has prevailed since 1698. During the season, about 100,000 are brought to Billingsgate in one week. A last of mackerel is 10,000.

MADAGASCAR, a large island lying between lat. 12° and 25° 45' S., about 240 miles distant from the E. coast of Africa, from which it is separated by the channel of Mozambique. Area, about 225,000 sq. miles. Population vaguely estimated at 5,000,000, composed of numerous tribes, one of which, the Ovahs, exercises a nominal sovereignty over the whole.

The island contains extensive and fertile plains, interspersed with mountainous districts, which render the climate of the interior milder than might be expected from the latitude; but the coast, being generally low and in many places swampy, is oppressively hot and unhealthy. The inhabitants are almost all naked barbarians, except the Ovahs, who possess a civilisation akin to that of the Javanese; and many European arts were introduced among them by King Radama, an energetic reformer, who died in 1828. The chief places of commercial resort are Bombatooka Bay, on the W., and Tamatave on the E., from whence rice, cattle, tortoise-shell, amber, &c. are sent to Mauritius. The French have settlements on the Isle St Marie, and at Foul Point Bay, St Luce Bay, and Fort Dauphin, where they cultivate sugar and coffee for exportation to Bourbon.

MADDER (Du. *Mee*, Krap. Fr. *Alizari*, *Garance*. Ger. *Krapp*, *Färberröthe*. It. *Robbia*. Sp. *Granza*, *Rubia*), a cheap, durable red dye, obtained from the root of a trailing plant (*Rubia*), cultivated in Alsace and Provence in France, especially near Avignon, in Dutch Zealand, Asiatic Turkey, and in Italy; from which places it is largely exported. The Turkey and Provence madder is procured from the variety termed *Rubia peregrina*; the remainder from the *Rubia tinctoria*. The substance contains at least two distinct colouring principles, a fawn and a red; yielding two tints, namely, *madder-red*, which contains the whole of the colouring matter, and *Turkey-red*, the superior brilliancy of which arises from the red portion being alone preserved. Madder is extensively used for dyeing calico, linen, and woollen cloth, and in the preparation of madder-lakes. The roots are taken up at the end of September and kiln-dried. The best are about the thickness of a goose-quill, semi-transparent; when broken, of a reddish colour, verging towards purple, possessing a strong smell, and having the bark smooth: a yellow hue indicates inferiority. The importations from Turkey (*via* Smyrna) and Italy consist entirely of the roots in their natural state; but the whole of the Zealand madder, and the greater part of the French, is shipped in the state of powder. In Zealand, previous to grinding, the roots are carefully assorted: the interior bright part of the finest makes *crop-madder*; *ombro* is prepared from good roots not peeled; *gamene* is the ordinary powder; and *mull*, made from peelings and refuse, is an inferior sort used for cheap dark colours. In France, it is prepared nearly in the same manner. Madder may be preserved a long time, but being injured by moisture, which it readily absorbs, it should be kept in a dry place.

The importations of this commodity for home consumption have been doubled within the last ten years, and now rather exceed 200,000 cwts.; about one-half being in the form of powder, and the remainder the roots in their natural state. The former is brought wholly from France and Holland; the latter principally from Turkey, and in smaller quantities from Italy and France. Small parcels of madder are also brought from Spain. [MUNJEET.]

The following extract from the London Price Current of February 1842, gives a comparative view of the estimation in which the different kinds are held in the British market:—

Madder Roots.—Turkey, £2, 8s. to £2, 10s. per cwt.

Madder.—Dutch, crop, per cwt., £3, 5s. to £4, 10s.; Ombro, £2, 8s. to £3; Gamene, £1, 10s. to £2; Mull, 7s. 6d. to £1; French, £2, 10s. to £3, 5s.; Spanish, £1, 8s. to £1, 15s.

MADEIRA, a fertile and beautiful island belonging to Portugal, lying about 450 miles W. from the coast of Morocco. Area, 300 sq. miles. Population, including Porto Santo, about 112,500. Funchal, the chief city and port, pop. 20,000, is the

residence of the governor of this island and of the adjoining islets, Porto Santo and Desertas.

Madeira consists of one large mountain, with branches rising every where from the sea towards the centre of the island. The climate is very mild and healthy; the mean temperature of the year not exceeding 65°. Vines form the chief object of cultivation, and large quantities of the wine produced are exported, particularly to England, where its consumption was facilitated by the Methven treaty [WINE], and to the United States. A tenth part of the whole is taken for taxes; the rest is divided between the proprietor and farmer. The growth of the island was formerly estimated at 30,000 pipes, but it does not now exceed 18,000, of which only the better sorts are exported, the remainder being made into brandy for the Brazils, converted into vinegar, or used at home. This decline, attributed partly to the frequency of adulteration, and partly to the preference given to sherry and French wines, has led to a great part of the soil being applied to other purposes. The culture of potatoes and other provisions has been extended on the higher grounds. The planting of coffee has also become very general in the island, and with considerable success. The sugar-cane has been tried, but does not repay its expense.

The only port is *Funchal*, in long. 17° 6' W., lat. 32° 37' N., an irregularly built, dirty town, situate in the centre of a large bay. It is strongly fortified, but has no harbour, and the roadstead is not secure, especially in winter. The merchants are chiefly English.

The exports, amounting annually to about £240,000, consist principally of wine, with fruits, dragon's-blood, honey, wax, orchil, tobacco, and ship-provisions. The imports are chiefly cottons, woollens, and other manufactures from Britain; sheep, salted provisions, fish, oil, timber, and corn; with tropical produce of different kinds from United States, Portugal, Genoa, and other places. About 50,000 tons of shipping enter the port annually, of which about 3-5ths are British.

Measures and Weights in general those of Portugal; but 23 corn alquieres of Madeira equal 24 of Lisbon; and 12 wine almudes of Madeira equal 13 of Lisbon. *Money* accounts are kept in milreas, each equal to the Spanish dollar. In exchanges the milrea is converted into sterling at a nominal or assumed par of 58 pence, allowing a premium for bills on London, varying from about 25 to 30 per cent. *Import duty*, 20 per cent. on all articles except provisions.

MAGNA GRÆCIA WARE, a term applied by customhouse officers to Etruscan vases, urns, and other kinds of ancient pottery.

MAGNESIA, a well-known medicinal earth, commonly obtained by burning the carbonate of magnesia, whence it is sometimes called *calcined magnesia*. It is a white, soft powder, and possesses neither taste nor smell. The carbonate of magnesia is found in a natural state in Piedmont, Moravia, Hoboken in N. America, and in the East Indies, but it is usually manufactured from the bittern of sea-salt works. It is a white, light powder, resembling the pure earth, but possessing only about one-half of its strength.

MAGNET, a combination of the protoxide and peroxide of iron. [COMPASS.]

MAHOGANY (Sp. *Caoba*), the timber of a stupendous tree, of which there are several varieties, the principal being the *Swietenia mahagoni*, a native of the West Indies and Central America, and found in luxuriant condition in the rich valleys among the mountains of Cuba, and those that open upon the bay of Honduras. It is supposed to take about 200 years to arrive at maturity. This wood was first introduced into England in the beginning of last century, since which, though costly, it has become the principal timber for furniture and cabinet making, having entirely supplanted the walnut, formerly in general use for the same purposes. From 20,000 to 25,000 tons are now annually imported into Britain; three-fourths of which are brought from Honduras, and the remainder from Cuba and Hayti.

The timber is best upon the coldest soils and in the most exposed situations. When it grows upon moist and warm lands, it is soft, coarse, spongy, and contains sap-wood, into which some worms will eat. That which is most accessible at Honduras is of this description; and therefore it is only used for coarser works, or for a ground on which to lay veneers of the choicer sorts. When grown among rocks and much exposed, the size is inferior; but the timber is superior in strength, and the colour is richer. "Since the produce of Jamaica has been nearly exhausted, there are only two kinds known in the market,—Bay-wood, or that which is got from the continent of America, and Spanish-wood, or the produce of the islands, chiefly of Cuba and Hayti. Though the Bay-wood is inferior to the other, both in value and in price, it is often very beautiful, and may be obtained in logs as large as six feet square. It is, however, not nearly so compact as the other; the grain is apt to rise in polishing, and, if it be not covered by a water-proof varnish, it is very easily stained. It also gives to the tool in carving, and is not well adapted for ornaments. Spanish-wood cuts well, takes a fine polish, resists scratches, stains, and fractures much better, and is generally the only sort upon which much or delicate workmanship should be expended."—(*Lib. of Ent. Knowledge: Veg. Substances*, vol. I. p. 151.)

There are two East Indian species, but they are not imported in any quantities into this country: The *S. febrifuga*, likewise a gigantic tree, grows in the mountainous parts of Central Hindostan; its wood is of a dull red colour, hard, heavy, and durable: and the *S. chloroxylon*, a smaller tree, found in the mountains of the Circars; its wood is of a yellow colour, resembling box.

MAIZE, or INDIAN CORN (*Zea Mays*), the most productive, and at the same time the most unequal in its produce, of all the grains. The ears consist of a cylindrical substance, over which the seeds are ranged in eight or more straight rows, each of thirty or forty grains. The prevailing hue of the corn is yellow of various shades. The produce varies in the same field, according to the season,

from 40 to 200 or 300 for one. Fertile lands usually afford a return of 240 or 400 fold. Maize does not suffer from cold until the mean temperature falls to 43°, and no heat is injurious to it. It forms a principal food in the United States, Mexico, Africa, and some parts of the East Indies. In the East it is considered as an inferior grain, and bears the same rank in relation to rice that oats or barley does to wheat in Britain. A small variety is partially cultivated in the south of Europe; but the attempts made to introduce it into this country have been unsuccessful.

MALACCA, a settlement of the East India Company, extending about 40 miles along the shore of the Malay peninsula, by 30 inland. Area, 800 sq. miles. Population, 22,000, chiefly Malays. The town is in lat. 2° 14' N., and long. 102° 12' E.; pop. 12,000. The government is vested in a resident, deputy to a chief resident at Singapore.

Malacca was taken from the Dutch during last war, and restored at the peace in 1813; but in 1818 it was received from them in exchange for settlements in Sumatra. It is not a place of much value. The soil is deficient in fertility, and its foreign trade has been supplanted by the two great emporiums in its neighbourhood, Singapore and Penang. The climate is continual heat, Fahrenheit ranging only from 73° to 85°. The productions are tin and fish, with a little gum. Provisions are cheap. Large ships anchor about 1½ mile from the town.

Measures and Weights. The corid = 10½ imp. inches. The Malay pint of 100 mashes = 20 lbs. avoird., 2 pecks = 1 bahar, the last of 10 measures or 600 galleons = 20 cubs. avoird. only; the coons of rice or salt is 60 pecks; the kip of tin unequal about 60½ lbs. avoird. Gold and silver are weighed by the hundred of 544 Troy grains. Money accounts are stated in Spanish dollars of 100 cents which form the general currency of the "Strait." A variety of Indian and Dutch coins are also in circulation.

MALT, barley-corn which has been subjected to artificial germination, and then dried in a kiln, processes by which its farina is mellowed or sweetened, and so fitted for the purposes of the brewer. [Brew.] The first operation is that of steeping the grain in water, when it absorbs moisture, softens, and swells; it is then subjected to couching and flooring, by which it becomes warm and sweetens, and germination is allowed to proceed until the acrospire, or rudiment of the future stalk, is ready to burst the shell, at which stage it has acquired its maximum of saccharification. It is then kiln-dried at a low or high heat, according as it is wanted to be pale, amber, or brown. The pale or amber malt, the only kind which yield the saccharine or fermentable extract, should, when good, be compact but friable, white and mealy in their fracture, of an agreeable somewhat yeasty smell, not smoky, and of a pleasant sweet taste. The brown malt is not fermentable, but is employed to impart flavour. Besides these there is black or patent malt, a roasted kind, employed instead of burnt sugar merely to colour porter. Malting is not usually conducted during summer, because in hot weather the grain is apt to become mouldy.

The quantity of malt consumed in England has been long very considerable; but it has not increased in a degree proportional to the increase of the population,—a circumstance attributed partly to the more general use of tea, coffee, and other beverages, and partly to the higher price of malt liquors arising from the augmented duties on malt and beer, and the limited supply to be obtained in this country of fine barley suited for malting. Thus the quantity charged with duty in England was, in 1703, 26,734,505 bushels; in 1750, 29,204,506 bushels; in 1790, 21,533,000 bushels; and in 1810, 23,546,346 bushels. Little difference occurred in these quantities until of late years, when a stimulus was given to consumption by the reduction of the duty on malt in 1822, and still more by the abolition in 1830 of the low duties, as will be seen by the following table, which shows the quantity of malt charged with duty, and the amount of revenue received thereon in various years since 1830, in the different divisions of the kingdom:—

Year	England	Wales	Ireland	Total	Net Duty
	Bushels	Bushels	Bushels	Bushels	£
1830	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1835	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1840	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1845	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1850	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1855	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1860	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1865	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1870	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1875	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1880	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1885	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1890	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1895	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1900	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1905	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1910	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1915	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1920	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1925	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1930	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1935	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1940	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1945	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1950	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1955	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1960	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1965	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1970	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1975	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1980	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1985	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1990	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
1995	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000
2000	27,000,000	1,000,000	1,700,000	29,700,000	8,700,000

Of the sixty excise "collections" into which England and Wales are divided, the ten following are those from which the largest amount of malt duty is obtained:

Leeds, Suffolk, Bedford, Cambridge, Hertford, Surrey, Grantham, Norwich, Essex, and Lincoln.

The Duty on malt in England was first imposed in 1697, when it was fixed at the rate (reckoned in Imperial measure) of 6½d. per bushel; which, in 1760, was increased to 9½d.; in 1780, to 1s. 4½d.; in 1791, to 1s. 7½d.; but in 1792 it was reduced to its former rate of 1s. 4½d.; in 1802, it was increased to 2s. 5d.; in 1803, to 4s. 5½d.; in 1816, it was again reduced to 2s. 5d., which rate lasted only till 1819, when it was raised to 3s. 7½d.; in 1822, it was fixed at 2s. 7d. per bushel; since which no alteration has been made.

In Scotland, the duty commenced in 1713, and in Ireland in 1785; and after various fluctuations was fixed, in 1822, in both countries, at 2s. 7d., as in England,—that made from bere or bigg, however, being only 2s. per bushel.

The charging and collection of the duty are regulated by the acts 7 & 8 Geo. IV. c. 52, 53, and 83; 11 Geo. IV. c. 17; and 7 & 8 Wm. IV. and 1 Vict. c. 49. By the first-mentioned act every person making malt is required to enter his premises and utensils with the excise. An individual residing in a remote part of any collection, and making malt solely for domestic use, may be entered as a *by-maltster*; but the excise officer must take a gauge of each steeping, after which his surveys are not required to be made oftener than once a-week, until the grain is dried off. If malt be made for private use in considerable quantities, the person making it ceases to be considered a *by-maltster*.

The act 7 & 8 Wm. IV. and 1 Vict. c. 49, § 9, fixes the following allowances to be made for the increase in the several gauges, in consequence of the swell of the corn; namely, while the grain is in the cistern, or in the couch, or directed to be deemed so, an allowance of 18½ bushels per 100; when the grain is on the floor, or on the kiln, after the expiration of 26 hours, if it has been previously gauged, or if it has not been so after the expiration of 30 hours, an allowance of one-half; the duty to be charged on the best gauge.

For the other regulations we must refer to the acts themselves. [CORN.]

MALTA, an island possessed by Great Britain in the Mediterranean, about 60 miles S.S.W. of Sicily. Extremo length, 17½ miles, and breadth, 9½ miles. Area, 85 sq. miles. Population in 1839, 105,456, including 5204 British, and 4661 aliens. The local government is vested in a military commander, who, in legislative matters, is assisted by a council of six persons nominated by the crown.

The E. coast is rocky and inaccessible, but the ground slopes from thence to the N. side, and the island is in general flat. It possesses no rivers, and few springs; and its aspect is sterile. About one-half of the whole surface, however, has been subjected to cultivation. The staple produce is cotton; the chief other productions are wheat, barley, pulse, fruit, especially oranges, potatoes, salt, and cummin seed; but the grain raised is equal only to about one-third of the consumption, and very few cattle or sheep are bred. Imports, chiefly wheat and other grain from the Black Sea and Sicily; British manufactures; sugar, coffee, and leaf tobacco; live-stock, chiefly from Africa; oil and wine from Sicily and Italy; spirits, wood, coals, and cheese, with a variety of other articles; the whole amounting annually to about £600,000. Exports, cottons, sail-cloth, and yarns of Maltese manufacture; also cabinet-work, gold and silver filigree work, and cut-stones, segars; with reshipments of colonial produce, grain, British manufactures, and wine; the whole amount being from £300,000 to £400,000. About 1800 vessels annually arrive, having an aggregate burthen of 190,000 tons; of which, however, 680 vessels, burthen 13,000 tons, consist of small craft chiefly trading with Sicily. The Maltese are expert carpenters and active seamen; and shipbuilding is on the increase, the vessels being registered as British: about 1600 tons were built in 1839.

La Valetta, the port, citadel, and seat of government, lies in lat. 35° 54' N., long. 14° 31' E., on the N.E. coast, on a narrow neck of land forming two harbours, the whole of which is defended by stupendous fortifications. The northern harbour is solely appropriated to the purposes of quarantine. The Southern or Grand Port is large, safe, and commodious, running up 1½ mile in a S.W. direction; and the shore is so bold that a line-of-battle ship may lie close to it. On the Valetta side, it is one continued line of wharfs for the accommodation of merchantmen. Population, including the three districts of Cospicua, Vittoriosa, and Senglea, on the opposite side of the harbour, about 50,000. Provisions are abundant and cheap, and water is supplied from tanks. The climate, though warm, is in general salubrious, especially between October and May. The "strocco," or S. E. wind, which mostly prevails in September, is oppressive and enervating; though the "gregale," or N. E. wind, in winter, is that which blows with the greatest fury.

Malta was a place of great importance during last war, having become the emporium of that commerce which was shut out from the Continent by the operation of the Berlin and Milan decrees; but it received a sudden interruption from the plague, which broke out in 1813; and the quarantine regulations afterwards maintained in Italy and France on vessels arriving from the island, operated for a long time most prejudicially to trade. In 1826, these restrictions were repealed. More recently, Valetta has been made a free port,—a circumstance which, joined to its being the principal British naval station in the Mediterranean, as well as the most advantageous point of rendezvous for steam-vessels plying between Italy, France, and England, and the Levant, to supply themselves with coals, render it of great importance both in a political and commercial view. The island, it may be observed, likewise promises to become an extensive *entrepôt* for the corn of the Black Sea and Mediterranean, no less from its central position than from its *caricatori*, which, being excavated in the rock, are admirably adapted for the safe keeping of grain.

Gozo, **Comino**, and **Piſla**, are islet dependencies of Malta. The first, 10 miles long, by 5½ in breadth, has a population of 16,472; but it has no port, and is only approachable by small craft.

MEASURES, WEIGHTS, MONIES, &c.

Measures and Weights.—The canna of 8 palmi = 82 Imp. inches, but 3½ palmi are commonly reckoned equal to 1 yard. The salma of land of 16 square tumoli = 4.44 Imp. acres. The barile of wine = 9½ Imp. gallons; the casso of oil = 4½ Imp. gallons; and 2 cassos = 1 barile of oil. The salma of corn (stricken measure) = 7½ Imp. bushels.

The cantaro of 100 rottoli or pounds = 174½ lbs. avoirdupois, but is commonly reckoned at 175. The pound of 12 ounces, used in weighing gold and silver = 488½ troy grains.

Money.—Accounts are kept by the government in sterling, but by the mercantile classes in scudi of 12 tari, each of 20 grani. 2½ scudi = 1 pezza or Sicilian dollar = 47½d. valued in silver, or 49½d. in gold; but is commonly estimated at 4s. 2d., and the Maltese scudo at 1s. 8d. The other monies consist chiefly of Spanish and American dollars, and of British silver and copper. Notes are issued by two banks (established *en commandite*), but only to

a small extent, not exceeding £20,000; while the coin in circulation is estimated at £150,000.

Bills on London are commonly drawn at 3 and 60 days' sight; and the ordinary fluctuations of the exchange are from about 48½d. to 5½d. per pezza.

The Revenue averages £1,000,000 per annum; of which, derived from crown property, £20,000; corn duty, £30,000; customs and port dues, £14,000; excise, £16,000; quarantine dues, £5,000; judicial fees, £4,000; minor taxes, £3,000. The customs and port duties and warehouse rent are exceedingly small, imposed for the sake of revenue only, and without regard to the country from whence the vessels arrive.

The importance of Malta began in the 16th century, when it was ceded by Charles V. to the Knights of St John of Jerusalem. In 1798, after a mere show of resistance, it was taken by Napoleon; and in 1800 it was reduced by the United British and Maltese by blockade.

MALTER, a German corn measure, varying in different places.

MALTHA, a variety of bitumen supposed to be inspissated PETROLEUM.

MAN, ISLE OF, is situated between Cumberland and the N. of Ireland. Area, 220 sq. miles. Population in 1841, 47,985. It was long held in feudal sovereignty by the Earls of Derby, descending from them to the Dukes of Atholl, from whom it was purchased in 1765; the island retaining, however, most of its peculiar laws. The administration is vested in a governor and council, and the "House of Keys," a self-elected body; the whole forming what is called the Court of Tynwald.

The island is intersected by a ridge of mountains which run from N.E. to S.W., and many parts of the coast are rocky; but there is still a considerable extent of level territory, though no part is very productive, and improvement has been retarded by the division of the land into small farms. Of late, however, the decay of the herring-fishery has led to more attention being given to agriculture, the advancement of which is facilitated by the quantity of sea-weed fitted for manure which is thrown upon the shores; while the industry of the islanders has been promoted by improved fiscal regulations, and their increased intercourse with Liverpool, Glasgow, and other places, since the development of steam-navigation. The exports consist principally of grain, potatoes, eggs, lime, lead and copper ore, herrings, linen, and paper, mostly all sent to Liverpool. *Douglas*, on the S.E. coast, is the only port of consequence.

CURRENCY, DUTIES, &c.

Manx Currency is in value 1½ less than that of Britain,—the British shilling being reckoned at 14 Manx pennies, or £100 sterling = £116, 13s. 4d. Manx; but by act of Tynwald of Nov. 8, 1839, all transactions are now held to be in sterling. Measures and weights are now also reckoned by the Imperial standards.

A joint-stock bank has been established, with a paid-up capital of £30,000.

Tar. Duties in Man are in general considerably lower than those payable in Britain. The distinction led formerly to a great deal of smuggling; but this is now checked by allowing only certain quantities of those commodities which had been the subject of the contraband trade, to be imported into the island under a customs license. The existing regulations are embodied in the act 3 & 4 Wm. IV. c. 60; and the following are the principal duties, with the quantities of those goods admitted only under license:—

Coffee, 4d. per lb.; hemp, 1d. per cwt.; British hops, 1½d. per lb.; foreign spirits (20,000 gallons) 4s. 6d. per gall.; colonial rum (60,000 gallons), 3s. per gall.; colonial raw sugar (10,000

cwt.), 1s. per cwt.; bohea tea (70,000 lbs.) 6d. per lb.; green tea (50,000 lbs.), 1s. per lb.; tobacco (60,000 lbs.), 1s. 6d. per lb.; wine (27,720 galls.) £16 per tun of 2½ galls. for French, and £12 per tun other sorts; foreign timber and bark, 10 per cent. *ad valorem*.

Goods from U. K., and entitled to any drawback on exportation from thence, and not before enumerated, 5 per cent.; goods from U. K. and not herein before charged, 2½ per cent.; goods from any place whence such goods may be imported into Man, and not before charged, 15 per cent.

Exempted from duty: coals, flax, and fish; British linen, hemp, cattle, utensils, bricks, tiles, salt, timber, &c. in British ships; and colonial naval stores, indigo, lumber, &c. if from U. K. in British ships.

Licensed goods must be imported into Douglas in British ships of 50 tons or upwards.

Foreign goods cannot be exported from Man to the U. K., § 11.

Foreign corn is subject to same duties as in U. K.

MANDATE. [PRINCIPAL AND AGENT.]

MANDIOC. [CASSAVA.]

MANGANESE, a very brittle metal of a dusky white colour, and without either malleability or ductility. Sp. gr. 8. The substance known in commerce under that name, however, is the peroxide, or black oxide, of the metal. It occurs native in the Mendip Hills in Somerset, and in the counties of Devon and Aberdeen. It is found in a variety of forms; most commonly it is of an earthy appearance, and mixed with other ingredients; but sometimes in crystals of a black colour and metallic lustre. Peroxide of manganese is largely consumed in the manufacture of bleaching compounds; it is also used by potters and glass-makers; and in the laboratory it is considered the cheapest material from which to procure oxygen.

MANGEL WURZEL, a species of BEET, used as winter food for cattle, a purpose to which it has been long applied in Germany, though its introduction into

stry dates only from the end of last century. The plant is nearly of the uration and habits as the turnip ; and though the Swedish variety of the ceeds it, weight for weight, in the quantity of nourishment, yet, on good la, the produce of beet is much greater. In Guernsey, crops have been f 100 tons per acre.

GO, the fruit of the *Mangifera Indica*, sometimes imported from India as . It is kidney-shaped, of a delicious flavour, and contains a flattened stone. re, however, many varieties.

HEIM GOLD, or *Similor*, consists of 3 parts of copper and 1 of zinc. A is sometimes added, which, though it may improve the colour, impairs the ility of the alloy. It is from this that the spurious leaf-gold, laces, and ticles, are manufactured.

ILLA. [PHILIPPINE ISLANDS.]

IFEST, a document containing a specific description of a ship, her cargo, engers ; it is signed by the master at the place of lading.

NA, the concrete juice of the manna ash (*Fraxinus ornus*), collected prin- n Calabria and Sicily. The best, called flake manna, is in oblong, light, pieces, of a whitish colour, and somewhat transparent, with a sweetish, ste, and a weak smell. The inferior kinds are moist, unctuous, and dark- l. It is a mild aperient medicine.

LE, a timber-tree, of which there are many varieties. The common British *Acer campestre*), is a small tree, the wood of which is of little value, except erner, who makes it into cups, bowls, &c. The sycamore maple, called in l the plane-tree (*A. pseudo platanus*), is chiefly used for coarse work where s and toughness are required. The sugar maple (*A. saccharinum*), abun- N. America, is so called from the saccharine matter obtained by tapping r in spring, and which in Canada is largely manufactured into sugar ; its hard, and has a satiny lustre, but being readily attacked by insects, it is uch value, except when its grain is waved, and then it is in request for work : the wood of old trees is esteemed for inlaying mahogany, and is *bird's-eye maple*.

BLE, the granular limestone, or carbonate of lime, of mineralogists, is a beautiful kind of stone, somewhat translucent, of various colours, and ily veined or spotted. Sp. gr. 2.5 to 2.8.

ar limestone is found in many, if not in most primitive countries ; it sometimes forms untains, but more often occurs in beds. The most celebrated statuary marbles of mes were found in the islands of Paros, Naxos, and Tenos, in the Archipelago. Parian white, large grained, and considerably translucent. The Pentelicon, taken from quarries tain called Pentelicus, near Athens, is traversed by greenish or grayish veins, which only micaceous. The marble of Carrara has a finer grain and closer texture, and is that ily employed by statuaries ; the quarries of this marble are on the eastern coast of the enna, and are worked on the face of a mountain to the height of about 800 feet.

ful marbles for chimney-pieces and ornaments are found in various parts of the United , and in other countries. In England, they are abundant in the counties of Derby, Devon, ecca, the last being of a green colour ; in Scotland, at Assynt, in Sutherlandshire ; Balla- in Argyllshire ; and in the islands of Tiree, Skye, and Jura ; in Ireland, in Kilkenny r places. The Kilkenny marble is black, and encloses shells of a whitish colour, which, , presents segments of circles. The Cotham, Ruin, or Landscape marble of Bristol, hen polished the appearance of a landscape or ruins ; it is common in the Val d' Arno, ence. The Lumachelli or Fire Marble, found at Bleyberg, in Carinthia, exhibits beau- scent colours, which are sometimes prismatic internally, but more commonly of various orange or red.

ITIME LAW. [MASTER. NAVIGATION. SEAMEN. SHIPPING, &c.]

LK, the name given to a money of account in Hamburg, Lubec, Denmark, rway ; to a weight, used chiefly for gold and silver, in different parts of the nt, varying from about 3500 to 3700 troy grains ; and to an ancient money and and Scotland. [COIN.]

LKET, a kind of minor FAIR, usually held once or twice a-week in most for the sale of provisions or live-stock. The following are the principal : of the metropolis :—

ld cattle-market is held every Monday morning ; also, though on a smaller scale, on In Mr Knight's valuable work " London " (vol. ii. p. 325), the sales in 1839 are stated as fol- 0,780 cattle, 1,360,260 sheep and lambs, 254,672 pigs, 22,500 calves ; and, taking the average f the cattle at 640 lbs., of the sheep and pigs at 96 lbs., and of the calves at 140 lbs., the ber of lbs. of meat is 273,881,712 ; which, at the average price of 6d. per lb., would o £6,847,042 ; while at 7d. it would be £7,968,216. Smithfield is the only cattle-market n ; but large quantities of " country-killed meat " are now sent up by steam-boats and , principally to the carcass-butcherers of Newgate and Leadenhall markets. The graziers onsign their animals to salesmen, whose drovers meet the country drovers at the outskirts

of London. The salesmen charge 2s. 4d. for each "beast." The city derives a gross revenue of £6000, and a net revenue of £3000 a-year from the market.

A horse-market is held in Smithfield on Friday afternoon; and a hay and straw market on Tuesdays, Wednesdays, and Saturdays.

Mark Lane corn-market consists of two buildings. The first is a quadrangular paved court, surrounded by a colonnade, in which are seats for the corn-factors, who have each a desk containing samples. The second is a splendid Greek Doric building, which was erected in 1828 at an expense of £90,000. The interior consists of the sale-room,—a spacious and well-lighted hall, comprising the corn and seed markets, containing 82 stands for the factors. A hotel, coffeehouse, and reading-room are attached to the institution. The chief business is transacted here on Mondays, though Wednesdays and Fridays are likewise market-days. [COBN.]

Billingsgate fish-market, situated at the western extremity of the customhouse, is held daily; mackerel alone, however, being allowed to be sold on Sunday. Separate divisions are assigned for each kind of fish. From 4000 to 5000 fishing-vessels are annually entered at the customhouse. The cargoes are consigned to an intermediate class between the fishermen and the retail dealers, termed salesmen, who alone have stalls in the market, and who are obliged by the regulations to fix up in a conspicuous place a statement of the kind and amount of their stock. Their sale begins at 5 A. M., on the ringing of the market-bell, except that for oysters, which does not commence till 6 o'clock.

MARL, a mixture of limestone and clay, produced by the decomposition of shells in bogs and standing water. It is of a yellow or reddish-gray colour, and falls to pieces on exposure to the air. It exists in many parts of the United Kingdom, and is much used as a manure.

MARMALADE, a confection generally made of oranges boiled with sugar.

MARSH-MALLOW, a perennial indigenous plant common in marshes near the sea, but in some parts of the Continent cultivated for its root, which is used in medicine for all cases in which emollient or demulcent substances are required. The root is about the size of a finger, white, and carrot-shaped.

MASLIN, a mixture of rye and wheat. It is very extensively grown in Durham, where bread made of this compound is in general use. It is mixed in all proportions, from $\frac{1}{2}$ of wheat to $\frac{1}{2}$ of rye, and from $\frac{1}{4}$ of rye to $\frac{3}{4}$ of wheat, according to the soil.

MASSICOT, an oxide of lead prepared from the dross of the melted metal. It is of a pale yellow colour, and is used as a pigment.

MASTER or **CAPTAIN OF A SHIP** is the person put in charge and command of a ship during her voyage. The master of a British ship must be of the class of persons pointed out by the act for the encouragement of British shipping (3 & 4 Wm. IV. c. 54, § 16). [NAVIGATION.] The master is an agent [PRINCIPAL AND AGENT], with ample powers to represent the owners in the management of the concerns committed to him. They are liable for such engagements as he may enter into for the necessary and usual employment of the ship, and for such acts as he may do in his character of master within this limit. If the owners themselves appear, and make a special contract regarding the service of the ship, the master cannot substitute another on his own authority. Where the authority of the master is questioned, the law on the subject will generally be influenced by the custom of merchants. Charter-parties [which see] are generally the sole act of the owners themselves; but the master may be empowered to enter on a charter-party, and to bind the owners; and when he is abroad, this right is inherent in his office. In the case of a general ship, the owners rarely interfere to regulate the engagements with the particular merchants who furnish the cargo, and they are undoubtedly bound by every engagement made by the master relative to the usual employment of such a vessel. When the master binds the owners to repay money borrowed to accomplish repairs, or the price of repairs, stores, and provisions, he becomes, in the first place, himself personally bound, unless he, in express terms, confine the obligation to the owners. "But such a contract made by the owners themselves, or under circumstances which show that credit was given to them alone, gives the creditor no right of action against the master" (*Shee's Abbot*, 115). To render the owners liable,—when supplies are furnished, they must be reasonably proper for the occasion; and when repairs are undertaken, they must be necessary. The general rule on which the master should act is, to restrict himself to those obligations which a prudent owner would himself incur in the circumstances. "The creditor is required to prove the actual existence of the necessity of those things which give rise to his demand. The authority of the master is to provide necessities; if, therefore, a person trust him for a thing not necessary, he trusts him for that which it is not within the scope of his authority to provide" (*Abbot*, 120). If the master expend money of his own for such purposes, he is entitled to demand repayment. In a home port the authority of the master to incur such obligations may be superseded by that of the owners or a shiphusband; but the master's presumed power was

individuals in contracting with him, unless they are aware of his being so. The master may hypothecate the ship, or give the creditor a right to it over it, for the expense of repairs in a foreign but not in a home port. It has, for this purpose, been held a foreign country in the case of an English [BOTTOMRY AND RESPONDENTIA.] It has been found that the master has no right to the ship, for expenditure which he may have himself undertaken for repairs, or recourse in the case of his having had to make good obligations incurred on account of repairs (*Hussey v. Christie*, 9 *East*. 426). It is the duty of the master, or any other agent, to use his own endeavours for furthering the interest of his agents in the matter committed to his charge; and the greater importance of trust calls on him for a corresponding exercise of vigilance and skill as an agent.

He is responsible for losses occasioned by his misconduct or blunder. [TRY. INSURANCE. SHIPPING.] There are many statutory regulations to which he must attend, in the laws for the collection of the revenue, which will be abridged under the various heads of CUSTOMS, SHIPPING, WAREHOUSING, and the act for consolidating the laws relating to merchant-seamen (5 & 6 Wm. IV. c. 9), which will be found under the head of SEAMEN.—(*Holt on Shipping*, 102-160.)

MASTER AND SERVANT. The more important of the legal principles connected with this head, and coming within the scope of the present work, refer to the rights, obligations, and responsibilities of the parties in their transactions with the public. These will be presented under the head of Principal and Agent; only remains to give here a brief view of the nature of the engagement and the manner in which it is incurred, and the more usual remedies which parties adopt when they feel aggrieved. The contract need not be in writing, unless intended to last longer than a year. In the case of clerks, warehousemen, and in general all classes of persons who are in the way of being employed as permanent members of an establishment, a hiring without condition is good for a year, and to make it terminable at a shorter period, there must be a speciality in the agreement, to show that the parties intended it to be for a limited time. "By the general understanding on the subject, and without an express agreement or understanding to the contrary, domestic or menial servants, hired by the year, are subject to be dismissed or to depart at any time on the master's notice given by either, or a month's pay by the master" (*Burn's Justices*, ii.). This doctrine applies to England; in Scotland, the matter is regulated by local usage. A general hiring at so much per month, or so much per week, is a monthly or weekly hiring; but it is open to proof that the hiring was intended to be for a longer period, and that the expression was merely used in rating the wages. In the case of such hiring by the year, or an unusual period, if the servant continue in his employment after its expiration, the parties are held to have contracted with each other again for a like period.

Legal Provisions.—There are several statutory provisions for regulating the intercourse between employers and employed, the more important of which only can be here briefly noticed. The Geo. IV. c. 34, applies to the case of farm-servants, artificers, calico-printers, handloom weavers, miners, colliers, keelmen, pitmen, glassmen, potters, and other labourers. In the case of any such person refusing—if hired by a signed written contract—to commence, or to perform his service, or to deserting his service, or committing any misconduct, the hirer or master may complain on oath to a justice, who, on investigation, may abate the workman's wages, or imprison him for a period not exceeding three months, or discharge him. To facilitate the recovery of the wages of such workmen in case of the non-residence of their employers, justices, on complaint, may summon the steward or foreman, award the wages (provided they do not exceed £10), and on non-payment within 21 days, levy the sum by distress and sale.

Truck System.—The act for abolishing the truck system (1 & 2 Wm. IV. c. 37) applies to miners, saltmakers, brickmakers, cutlers and other workers of metals, japanners, tanners, and woollen, cotton, and silk manufacturers. It renders void all contracts where the employer is not to pay in the current coin, or where there is a stipulation as to how the wages are to be paid. It is illegal to remunerate the artificer with goods, and these cannot be set off against the wages for full wages. Any employer transgressing is liable to a penalty—viz. for the first offence, not less than £5 or more than £10; for the second, not less than £10 or more than £20; and for a third, not exceeding £100.

Disputes.—Disputes between a master and workman may be referred by any writing under the hand of the master to the final and summary determination of any justice of the peace or magistrate, whose jurisdiction the party complained against resides. The disputes which may be so referred are, 1st, Disputes as to the price of work, whether arising as to payment of wages, hours of labour, injury done to the work, delay in finishing it, or bad materials; 2d, Where workmen are employed at any new pattern which may require them to purchase any new implements, or alter the dimensions of goods, and the parties cannot agree as to compensation; 3d, Disputes as to the dimensions of goods, "or, in case of cotton manufacture, the yarn thereof, or the quantity and quality of the wool thereof;" 4th, Disputes regarding the remuneration for pieces of goods of any particular length; 5th, Disputes in the cotton manufacture, as to the manufacture of cravats,

shawls, pullicat, roomal and other handkerchiefs, and the number to be contained in a piece; and, 6th, Disputes arising from the particular trade or manufacture, or relative contracts, which cannot be otherwise settled. 5 Geo. IV. c. 96.

[FACTOR. PRINCIPAL AND AGENT. SHIPPING.] (*Acts as quoted. Burn's Justice. Smith's Mercantile L. 352-356. Burton's Manual of the Law of Scotland, 475-479.*)

MASTIC (Arab. *Arah*. Fr. *Mastic*. Ger. *Mastix*. It. *Mastice*), a resinous exudation from the *Pistacia lentiscus*, a shrubby tree found chiefly in the island of Scio, of which indeed it is the most celebrated production. When good, it occurs in pale yellow, brittle, transparent drops, of an astringent taste, and light agreeable odour, especially when heated. Such as inclines to black, green, or is dirty, should be avoided. "It forms the basis of several dyeing varnishes, is one of the ingredients used in fumigations, and is considered to be efficacious in promoting a healthy state of the mouth: for this latter purpose it is held in much esteem by the Turks, Greeks, and all the people of the Levant, who constantly chew it. The women of Scio, Smyrna, and Constantinople, have almost always a piece of it in their mouths."—(*Lib. of Ent. Knowledge: Veg. Substances*, vol. iii. p. 422.) Upwards of 300 cwts. are annually imported for consumption.

MAT, MATTING (Fr. *Nattes*. Ger. *Matten*. Rus. *Progozhki*), a texture formed of rushes or the bark of trees interwoven, and used for coarse floor-covering, for packages, and other purposes. Mats are imported from various countries, but chiefly from Russia, where a kind called *bast* mats are manufactured on a large scale from the inner bark of the lime-tree. The matting bags in which sugar is imported from Mauritius have of late years been also much in request; they are made of the leaves of a tree called in that island the *racoa*. Floor and table mats made from rattans and rushes are likewise occasionally brought from China.

MATE, the deputy of the master in a merchant ship. The first mate of every vessel exceeding 80 tons in burthen, and the first and second mate of every vessel exceeding 300 tons, when regularly entered as such, are exempt from impressment (4 Geo. IV. c. 25, § 7). [SEAMEN.]

MATÉ, YERBA, OR PARAGUAY TEA, the leaves of an evergreen, shrubby plant (*Ilex Paraguayensis*), largely consumed in the manner of tea in many parts of South America, where they are the subject of an extensive commerce.

The plant grows wild in all the woods bordering the affluents of the Uruguay and Parana, as well as those of the Paraguay from the east, from lat. 24° 30' northward. The leaves are first slightly scorched, by drawing the branch itself through fire; they are then roasted, broken down, and packed under strong pressure. The custom of using this herb was derived by the Spaniards from the Indians of Maracaya; and it is now general in Paraguay, and even in Chili, Peru, and Quito. A pinch of the leaves is put into a small cup of warm water, and the infusion is imbibed through a little tube pierced with small holes in the lower part, which only allow the passage of the water, and keep back the leaves. The same leaves serve for three infusions. Some drink it with sugar or lemon-juice, and it is taken at all times. [PARAGUAY.]

MAUND, an eastern weight, much used in INDIA.

MAUNDY MONEY, a name given to certain small silver coins distributed by the Queen as alms on Maundy Thursday. [COIN.]

MAURITIUS, OR ISLE OF FRANCE, a British colony in the Indian Sea, about 600 miles E. of Madagascar. Discovered by Portuguese, 1505. Possession taken by Dutch, 1598. Abandoned by Dutch and colonised by French, 1715. Became subject to Britain, 1810. Area, 676 sq. miles. Population (1839), 135,191, mostly negroes, but including about 9000 whites, chiefly of French extraction, and 12,000 Indians. The administration is vested in a governor and council.

The island is in general mountainous, the land rising from the coast towards the centre; and a considerable portion of the interior is composed of an extended table-land. The climate on the elevated plains is very moist, but on the whole the island is salubrious, and indeed is visited on this account by invalids from India. The chief disadvantage under which it labours is its great exposure to hurricanes. These occur mostly between December and May, a period corresponding nearly with the rainy season. Mauritius is not generally a fertile island, and it is dependent for provisions on India, the Cape, and other places; but in some parts the soil is exceedingly rich, and tropical commodities are produced in great abundance. The spices of Ceylon have been introduced, but not with much success; and since 1825, when the importation of the produce of the island into Britain was allowed on the same footing as the West India colonies, the planters have given nearly their exclusive attention to the sugar-cane, the cultivation of which has since been very greatly extended, though it is now supposed to have attained its maximum. In the year 1839, there were under crop 70,292 acres sugar-cane, 3145 maize, 6533 mandioc, 1833 potatoes, 38 coffee, 76 cloves, and 5 nutmegs; and there were exported of staples, 661,230 cwts. sugar, 60,33 gallons rum, and 212,639 gallons molasses.

Mauritius is favourably situated for trade; and the last published accounts, those for 1837, state the amount of imports at £1,034,242: of which, from Britain, £344,730, chiefly cotton manufactures, machinery, mill-work, and carriages, metals, dried provisions, and ale; from British India, £281,235, mostly rice and corn; from France, £122,651, comprehending wines, live-stock, spirits, silks, cabinet wares, &c.; from Pondicherry, £79,872, chiefly cotton piece goods, rice, soap, candles, and skins; the chief other imports were corn, provisions, and live-stock, from the Cape,

live-stock, rice, &c. from Madagascar, £58,633; bags, skins, and French goods, from m, £35,890; besides articles of smaller amount from Australia, Java, &c., and of oil from series. The exports in the same year, consisting almost wholly of the island staples, led to £831,132; of which, to Britain, £637,870; Australia, £79,940; Cape, £44,767; m, £20,155; Madagascar, £15,716; British India, £13,965; Pondicherry, £7581; France, besides smaller amounts to Java and other places. are two ports; *Port Louis*, the capital, in lat. 20° 10' S., long. 57° 29' E., pop. 26,000, the N.W. extremity, within a narrow inlet; and *Mahébourg*, on the S.E. coast: the rs of both are good, and safe, except in the hurricane seasons. From 100,000 to 120,000 shipping enter annually.

MEASURES, MONEY, DUTIES, &c.

Measures and Weights.—The Imperial measures and weights are employed in government transactions, but the old system of **FRANCE** is ordinary use. The common practical measures are, 15 French feet = 16 Brit. feet; 7 = 9 Brit. yards; 1 arpent = 1 Brit. acre, es; 1 veit = 2 old English wine gallons, velts = 1 caak; the quintal of 100 lbs. poids de marc = 106 lbs. avoirdupois, quintals = 1 French ton.

Money.—Accounts are kept in sterling; also rs of 100 cents or 10 colonial francs. The ing medium is composed of notes for £2 wards, issued by the Mauritius Bank, had in 1832, and the Mauritius Commer-

cial Bank, founded in 1838, and of a variety of coins. The dollar coined for the colony is of the same value as the Spanish dollar. Private bills are drawn in Europe at 90 d. s.; on India, 30 d. s.; on Bourbon, 15 d. s.; and commissariat bills on Britain are granted at 30 days' sight.

The Duty on British or colonial produce or manufactures imported in British ships is 6 per cent.; wheat, rice, and cattle, in British ships, free. Export duty on sugar, 1s. 2½d. per 100 lbs. when in British ships, and 2s. 2d. in foreign do. Entrepôt tax 1 per cent. on British; and 1½ per cent. on foreign goods.

The Colonial Revenue is about £180,000.

AD OR METHLEGIN, a liquor of ancient use in Britain, prepared by fermenting honey and water with a small quantity of spices and ground malt.

ASURES are, in commerce, of two kinds: those which have reference to trical qualities, or the attributes which belong to extension; and those which regard to the physical quality of gravity, or *weight*. But as all the physical ties of matter have an inseparable connexion with extension, the unit of the res of length may be held as the elementary foundation of both: its square is the unit of the measures of surface, and its cube the unit of the measures of ty; while from this last may be derived the unit of the measures of weight,—d of any stated capacity filled with water, or any other homogeneous fluid, weighing the same in the same latitude.

Standards are those measures of public or acknowledged authority by which are adjusted. The importance of accurate standards has always rendered adjustment and preservation objects of the highest interest. Until of late however, none of those in use could be considered as strictly invariable, in uence of the artificial bases on which they were established, and their ten- as material substances, to gradual decay. But in several countries, the ned accuracy of the standards is now secured by their relation being fixed to unchangeable object of nature. The objects preferred for this purpose have 1st, The length of a portion of the meridional circle; and, 2d, The length of ulum vibrating seconds of mean time. The first was adopted by the French year 1795, when the *metre*, which is the foundation of their present system eures, was fixed at the ten-millionth part of the quadrant of the meridian, 7079 inches; and the second was so far adopted by the British government introduction of the Imperial system, that the length of the standard yard, pared with that of a pendulum vibrating seconds in the latitude of London Fahrenheit, and in a vacuum at the level of the sea), is determined to be in ortion of 36 inches to 39.1393 inches.*

ce the above was written, a Report (December 21, 1841) has appeared from Messrs Airy, Bessel, Herschel, and other scientific commissioners appointed by government to consider s to be taken for restoration of the metrical standards which were destroyed in the burning houses of Parliament in 1834. From this report it appears that the use of the natural is referred to in the text will not reproduce the values of the original standards without error; and that in future it will be best to adopt a certain brass rod, and a certain brass as the standards of extension and weight, respectively; which, with four parliamen- des, the commissioners recommend should be fabricated from the best existing copies of er standards, and placed securely in public repositories. They at the same time suggest, avoirdupois pound should be assumed as the unit of weight; and that the troy pound, rdupois weights above 10 lbs. (as the stone, hundredweight, &c.), and the avoirdupois ould be abolished, and other weights in the ascending decimal scale of troy ounces and pois pounds, and in the descending decimal scale from the avoirdupois pound, should ituted in their place. Other moderate changes of a systematic kind are recommended, arly with the view of introducing the decimal scale—as a milyard, or mile of 1000 yards, a a measure, and the more complete incorporation of the land-chain and its decimal multiples sions, with both our measures of length and of surface. The commissioners likewise direct tention to the advantage of a decimal system of coinage. [Money.]

The Imperial measures were introduced by the act 5 Geo. IV. c. 74 (1824), and came into operation on January 1, 1826. This law, however, failed to produce a satisfactory uniformity in practice; and it was not until after the abolition of the heaped measures, and the introduction of the regulations of the act 5 & 6 Wm. IV. c. 63 (September 9, 1835), that they were generally adopted. In the Imperial system, the legal measures of extension and weight are continued as before; but a new measure of capacity is substituted for a variety of corn, wine, and beer measures, previously in use throughout the kingdom. The standards fixed were as follows:—The “Imperial standard yard,” or brass “standard yard of 1760,” bearing the proportion to the pendulum already mentioned. The “Imperial standard gallon,” containing 10 lbs. avoirdupois, or 277·274 cubic inches of distilled water at 62° Fahrenheit, the barometer being at 30 inches. The old troy pound of 1758, containing 5760 grains; one cubic inch of distilled water at 62° Fahrenheit, the barometer being at 30 inches, weighing 252·458 of such grains; and 7000 of such grains are declared to be equivalent to the avoirdupois pound. The chief other provisions in the act are the following:—

Weights and measures must be duly stamped by the inspectors, after being compared with the copies; and those using them either not stamped, or found light or unjust, forfeit a sum not exceeding £5, with the weights or measures, and the contract is annulled. No weight above 35 lbs., or wooden or wicker measure used in the sale of lime, or glass or earthenware drinking-vessel, requires to be stamped; but any person, buying by any such measure represented as of any amount of imperial measure, may require the same to be tested by a stamped measure, and if the seller refuse to do so, or the measure is found deficient, he becomes liable to the above penalty. Weights made of pewter or lead cannot be stamped or used unless cased with brass, copper, or iron.

Weights of 1 lb. or more must have the number of pounds, and measures must have their contents, denominated in legible figures and letters.

Justices and magistrates, or any inspector authorized by them in writing, may, at all reasonable times, enter any shop, warehouse, or other place, within their jurisdiction, where goods are sold or weighed, and examine the weights, weighing-machines, and measures used there; and on any of these being found illegal or fraudulent, or their not being produced, or the investigation being obstructed, parties become liable in a penalty not exceeding £5.

Local and customary measures, including the Winchester bushel and Scotch ell, abolished, and not to be used under a penalty not exceeding 40s.; but any vessel not represented as containing any imperial, fixed, or customary measure, may be used in the sale of articles.

The use of the heaped measure is prohibited; and coal, slack, culm, or cannel, must be sold by weight. All articles sold by weight must be sold by avoirdupois weight, except gold, silver, platinum, diamonds or other precious stones, which may be sold by troy weight; and drugs, which, when sold by retail, may be sold by apothecaries' weight. A stone-weight is to consist of fourteen pounds avoirdupois. The fiat prices in Scotland must be struck by the Imperial quarter.

Persons printing, or clerks of markets returning price-lists, journals, or papers, with a denomination of weights and measures greater or less than the Imperial, forfeit a sum not exceeding 10s. for every copy.

BRITISH MEASURES ACCORDING TO THE IMPERIAL STANDARDS, WITH THEIR EQUIVALENTS IN THE METRICAL SYSTEM OF FRANCE.

I. MEASURES OF LENGTH.		Metres.
12 inches	= 1 foot.	0·30479
3 feet	= 1 yard.	0·91438
5½ yards	= 1 pole, rod, or perch.	5·02911
40 poles	= 1 furlong.	201·16436
8 furlongs or 1760 yards	= 1 mile.	1609·31492
<i>Special Measures of Length.</i> —The hand = 4 inches; the pace = 5 feet; and the fathom = 6 feet. The geographical degree = 20 nautical leagues, or 69·121 miles. In land measure, the chain of 100 links = 66 feet.		
II. MEASURES OF SURFACE.		Area.
144 square inches	= 1 sq. foot.	0·000929
9 square feet	= 1 sq. yard.	0·008361
30½ sq. yards, or 272½ sq. feet	= 1 sq. pole.	0·252919
40 square poles	= 1 rood.	10·116775
4 roods, or 4840 square yards	= 1 acre.	40·467102
The acre also contains 10 square chains; and 640 acres make 1 sq. mile, equal 258·969 hectares.		
III. MEASURES OF CAPACITY.		
1. <i>General Measure of Solidity.</i>		
1728 cubic inches	= 1 cubic foot.	Cub. Metre 0·028315
27 cubic feet	= 1 cubic yard.	0·764555
The ton measurement for shipping contains 8 barrel-bulk, or 40 cubic feet.		
2. <i>Measures for Liquids and Corn.*</i>		
8·665 cubic inches	= 1 gill.	Litre 0·142
4 gills	= 1 pint.	0·568
2 pints	= 1 quart.	1·136
4 quarts	= 1 gallon.	4·543
2 gallons	= 1 peck.	9·087
4 pecks	= 1 bushel.	36·348
8 bushels	= 1 quarter.	290·781
10 quarters	= 1 last.	2907·815
The measures higher than the gallon are not used for liquids.		
In <i>Beer Measure</i> , the barrel contains 4 firkins or 36 galls.; and the hogshead 1½ barrel or 54 galls.		
In <i>Wine Measure</i> , besides the gallon and its subdivisions, various denominations are used,		

* In Ireland, grain is commonly sold by weight; a practice which is also followed in Liverpool, except in sales of malt and barley for malting purposes. In the latter place, wheat is sold by the 70 lbs.; oats by the 45 lbs.; and barley for grinding by the 60 lbs. weight. [Conn.]

in the butt, pipe, and others specified below; but these are now to be considered rather as the names of casks than as expressing any definite number of gallons. The standard gauges recognized in trade are described in the article WINE.

IV. MEASURES OF WEIGHT.

1. Avoirdupois or Commercial Weight.

17704 troy grains	= 1 dram.	Kilogramme.
16 drams	= 1 ounce.	0.0018
16 ounces, or		0.0033
7000 grains	= 1 pound.	0.4535
16 pounds	= 1 stone.	0.3605
28 pounds	= 1 quarter.	12.0088
4 quarters, or		
112 pounds	= 1 hundred-weight.	50.7030
100 hundredwts.		
or 11200 pounds	= 1 ton.	1016.0360

Beer Weight.—1 peck = 14 pounds; 1 boll = 10 pounds; 1 sack = 300 pounds, or 2½ hundredweight; 1 barrel = 12½ pounds.

2. Troy, or Gold and Silver Weight.

24 grains	= 1 pennywt.	Gramme.
20 pennyweights	= 1 ounce.	1.360
12 ounces, or		31.103
3730 grains	= 1 pound.	373.000

The troy pound is less than the avoirdupois in the proportion of 14 to 17 nearly; but the troy ounce is greater than the avoirdupois in the proportion of 79 to 73 nearly.

The mode of expressing the fineness of gold and silver is explained in the articles COIN and PLATINUM.

Diamond Weight.—Diamonds are weighed by carats, 181½ of which make one ounce troy; the carat is therefore equal to 3½ troy grains.

Pearl Weight.—The troy ounce contains 300 pearl grains, and hence one pearl grain is ⅓ of a troy grain.

Apothecaries' Weight.—30 troy grains make 1 scruple, 3 scruples make 1 dram, and 8 drams make 1 troy ounce. This weight is used in medical prescriptions only.

Tables for the mutual Conversion of the British and French Measures.*

Imperial	French	Imperial	French	Imperial	French	Imperial	French	Imperial	French	Imperial	French
Length	Length	Area	Area	Volume	Volume	Weight	Weight	Weight	Weight	Weight	Weight
1 in.	2.54 cm.	1 sq. in.	6.4516 sq. cm.	1 cu. in.	16.3871 cu. cm.	1 lb.	453.5924 gms.	1 lb.	311.0348 gms.	1 lb.	311.0348 gms.
2 in.	5.08 cm.	4 sq. in.	25.8064 sq. cm.	8 cu. in.	131.072 cu. cm.	2 lb.	907.1848 gms.	2 lb.	622.0696 gms.	2 lb.	622.0696 gms.
3 in.	7.62 cm.	9 sq. in.	58.0662 sq. cm.	27 cu. in.	441.216 cu. cm.	3 lb.	1360.7772 gms.	3 lb.	933.1044 gms.	3 lb.	933.1044 gms.
4 in.	10.16 cm.	16 sq. in.	103.2257 sq. cm.	64 cu. in.	1057.28 cu. cm.	4 lb.	1814.3696 gms.	4 lb.	1244.1392 gms.	4 lb.	1244.1392 gms.
5 in.	12.70 cm.	25 sq. in.	162.5818 sq. cm.	125 cu. in.	2061.16 cu. cm.	5 lb.	2267.9620 gms.	5 lb.	1555.1740 gms.	5 lb.	1555.1740 gms.
6 in.	15.24 cm.	36 sq. in.	232.2608 sq. cm.	216 cu. in.	3658.98 cu. cm.	6 lb.	2721.5544 gms.	6 lb.	1866.2088 gms.	6 lb.	1866.2088 gms.
7 in.	17.78 cm.	49 sq. in.	314.9284 sq. cm.	343 cu. in.	5624.55 cu. cm.	7 lb.	3175.1468 gms.	7 lb.	2182.2436 gms.	7 lb.	2182.2436 gms.
8 in.	20.32 cm.	64 sq. in.	418.0624 sq. cm.	512 cu. in.	8446.72 cu. cm.	8 lb.	3628.7392 gms.	8 lb.	2488.2784 gms.	8 lb.	2488.2784 gms.
9 in.	22.86 cm.	81 sq. in.	527.8436 sq. cm.	729 cu. in.	11648.13 cu. cm.	9 lb.	4082.3316 gms.	9 lb.	2793.3132 gms.	9 lb.	2793.3132 gms.
10 in.	25.40 cm.	100 sq. in.	646.1264 sq. cm.	1000 cu. in.	15848.76 cu. cm.	10 lb.	4535.9240 gms.	10 lb.	3110.3480 gms.	10 lb.	3110.3480 gms.
11 in.	27.94 cm.	121 sq. in.	774.4504 sq. cm.	1331 cu. in.	21010.57 cu. cm.	11 lb.	4989.5164 gms.	11 lb.	3421.3828 gms.	11 lb.	3421.3828 gms.
12 in.	30.48 cm.	144 sq. in.	912.7744 sq. cm.	1728 cu. in.	27077.07 cu. cm.	12 lb.	5443.1088 gms.	12 lb.	3732.4176 gms.	12 lb.	3732.4176 gms.
13 in.	33.02 cm.	169 sq. in.	1060.9984 sq. cm.	2197 cu. in.	33868.87 cu. cm.	13 lb.	5896.7012 gms.	13 lb.	4043.4520 gms.	13 lb.	4043.4520 gms.
14 in.	35.56 cm.	196 sq. in.	1229.3224 sq. cm.	2744 cu. in.	41681.28 cu. cm.	14 lb.	6350.2936 gms.	14 lb.	4354.4864 gms.	14 lb.	4354.4864 gms.
15 in.	38.10 cm.	225 sq. in.	1417.6464 sq. cm.	3375 cu. in.	50613.69 cu. cm.	15 lb.	6803.8860 gms.	15 lb.	4665.5208 gms.	15 lb.	4665.5208 gms.
16 in.	40.64 cm.	256 sq. in.	1626.0704 sq. cm.	4096 cu. in.	60666.10 cu. cm.	16 lb.	7257.4784 gms.	16 lb.	4976.5552 gms.	16 lb.	4976.5552 gms.
17 in.	43.18 cm.	289 sq. in.	1854.5944 sq. cm.	4913 cu. in.	71838.51 cu. cm.	17 lb.	7711.0708 gms.	17 lb.	5287.5896 gms.	17 lb.	5287.5896 gms.
18 in.	45.72 cm.	324 sq. in.	2103.1184 sq. cm.	5832 cu. in.	84140.92 cu. cm.	18 lb.	8164.6632 gms.	18 lb.	5598.6240 gms.	18 lb.	5598.6240 gms.
19 in.	48.26 cm.	361 sq. in.	2371.6424 sq. cm.	6859 cu. in.	97573.33 cu. cm.	19 lb.	8618.2556 gms.	19 lb.	5909.6584 gms.	19 lb.	5909.6584 gms.
20 in.	50.80 cm.	400 sq. in.	2660.1664 sq. cm.	8000 cu. in.	112215.74 cu. cm.	20 lb.	9071.8480 gms.	20 lb.	6220.6928 gms.	20 lb.	6220.6928 gms.

These tables are also equalization tables of prices, as well as of measures and weights, but in the inverse ratio of the latter. Thus, for example, 9 lbs. = 4.0819 kilogrammes; but when the price of a kilogramme = 9 francs or shillings, the price of a pound = 4.0819 francs or shillings; also 9 kilogrammes = 19.8437 lbs.; but when the price of 1 lb. = 9 francs or shillings, the price of 1 kilogramme = 19.8437 francs or shillings.—(Fide note on p. 472.)

PRINCIPAL OLD MEASURES SUPERSEDED BY THE IMPERIAL SYSTEM.

ENGLAND.

Measure of Length.—The ell = 45 inches.

Wine Measure.—The gallon equal 4 quarts, 8 pints, or 16 gills, and contained 231 cubic inches, or 2.706 French litres. Of these gallons the sugar contained 10, the rundlet 12, the tierce 42, the hogshead 63, the puncheon 84, the pipe or butt 126, and the tun 252.

The imperial gallon contains 277.274 cubic inches; therefore 1 wine gallon equal 0.833111 imperial gallon; and 1 imperial gallon equal 1.20095 wine gallon. The wine gallon is thus almost exactly ⅓ less than the imperial; or 4 imperial gallons equal 5 wine gallons. Hence, to convert wine gallons into imperial gallons, deduct ⅓ from the former; and to convert prices per wine gallon into prices per imperial gallon, add ⅓ or 33 per cent. to the former. Again, to

convert imperial gallons into wine gallons, add ⅓ to the former; and to convert prices per imperial gallon into prices per wine gallon, deduct ⅓ from the former.

Ale and Beer Measure.—The gallon divided in the same manner as the wine gallon, and equal 282 cubic inches, or 4.5400 French litres. Of these gallons the firkin contained 9, the kilderkin 18, the barrel 36, the hogshead 54, the puncheon 72, the butt 108, and the tun 216.

One ale gallon equal 1.017045 imperial gallon; or 1 imperial gallon equal 0.983941 ale gallon; hence approximately 36 ale gallons equal 36 imperial gallons.

Heaped Measures.—The bushel 19½ inches wide from the outside, 8 inches deep, and measuring 3717.6 cubic inches; but when heaped in the form of a cone above the brim, 3818½. Three heaped

* The elementary equations used in the comparison of the French and British measures are as follow:—For extension, the metre = 39.37079; for weight, the kilogramme = 15434 troy grains. The former is stated on the authority of the second Report of the Parliamentary Commission on British Weights and Measures, and of the Annuaire of the French Board of Longitude; the latter according to the London Mint Report on attested Standards, sent to Lord Castlereagh, by D. H. Morier, Esq., Consul-general at Paris, 1820.

bushele made a sack, 12 sacks a chaldron, and 21 chaldrons a score. This measure was used for coals, corn, lime, fish, potatoes, and other commodities. Apples and pears were commonly sold by the Winchester bushel heaped.

Winchester or English Standard Corn Measure.—The denominations of this measure were the same as the Imperial. The Winchester bushel contained 2150.42 cubic inches, or 35.237 French litres. The Imperial bushel contains 2218.192 cubic inches, hence 1 Winchester bushel or quarter equal 0.969447 Imp. bushel or quarter, and 1 Imp. bushel or quarter equal 1.031516 Winchester bushel or quarter; or approximately 33 Winchester bushels or quarters equal 32 Imperial.

SCOTLAND.

Measures of Length.—The standard Scottish ell of 36 Scots or 37.1356 Imperial inches. 6 ells made 1 fall; 40 falls 1 furlong; and 8 furlongs or 1920 ells made 1 mile, equal 1978.522 Imperial yards. Hence 10 Scots miles equal 11½ Imperial or statute miles nearly. The chain of 100 links, used for land measure, was equal to 24 ells, 74.1196 Imperial feet, or 1.12504 Imperial chains.

Weights.—The standard Scottish Troyes or Dutch pound of 16 ounces, or 256 drops, equal 700.95 troy grains, or about ⅙th heavier than the avoird. pound. The Lanark stone contained 16 of these pounds, or 17.30185 lbs. avoird. The Scottish iron weight used for butter and cheese varied in different places.

The standard Scottish meal boll contained 5 stones Dutch, or 130.135 lbs. avoird.; but usually reckoned 140 lbs. in consequence of the Dutch or Lanark stone being estimated at 17½ lbs. avoird.

Liquid Measures.—The Scots gallon of 8 pints, 16 choppin, 32 mutchkins, or 128 gills, equals 4.54609, or rather more than 3 Imperial gallons. The Scots pint of 80 pints equal about 7½ Imp. galls.

Measures of Surface.—36 square ells equal 1 square fall, 40 square falls equal 1 rood, and 4 roods equal 1 acre, equal 1.961183 Imperial acre. To convert, therefore, Scots acres into Imperial, multiply by 1.961183; and to convert Imperial acres into Scots, multiply by 0.792906. Approximately, 23 Scots acres equal 39 Imperial acres; or more nearly, 134 Scots acres equal 100 Imperial acres. Hence Scots acres are convertible into Imperial acres by multiplying the number of the former by 169, and dividing the product by 134. On the other hand, Imperial acres are convertible into Scots acres by multiplying by 134, and dividing the product by 169.

Similarly to convert prices of land per Scots measure into prices per Imperial, multiply the former by 0.792906, or approximately deduct ⅙th, or more nearly 4s. 1½d. per £1 from the Scots price. Again, to convert Imperial prices into Scots, multiply the former by 1.261183; or approximately add ⅙th, or more nearly 4s. 2½d. per £1 to the Imperial price.

Corn Measures.—See the article Bush.

IRELAND.

100 Irish gallons = 78½ Imp. gallons.
11 Irish miles = 14 Imp. miles.
12½ Irish Plantation acres = 100 Imp. acres.
94 Cunningham acres = 31 Imp. acres nearly.

Reciprocal Conversion of Winchester and Imperial Measures.*

Winchester into Imperial.						Imperial into Winchester.					
Win. Qrs.	Imperial Quarters.	Win. Bush.	Imperial Quarters.	Win. Pounds.	Imperial Quarters.	Imp. Qrs.	Winchester Quarters.	Imp. Bush.	Winchester Quarters.	Imp. Pounds.	Winchester Quarters.
1	0.969447	1	0.121181	1	0.03030	1	1.031516	1	0.126209	1	0.03030
2	1.938894	2	0.242362	2	0.06060	2	2.063031	2	0.252418	2	0.06060
3	2.908341	3	0.363543	3	0.09090	3	3.094547	3	0.378627	3	0.09090
4	3.877788	4	0.484723	4	0.121181	4	4.126063	4	0.504836	4	0.121181
5	4.847235	5	0.605904	5	0.151515	5	5.157579	5	0.631045	5	0.151515
6	5.816682	6	0.727085	6	0.181818	6	6.189094	6	0.757254	6	0.181818
7	6.786129	7	0.848266	7	0.212121	7	7.220610	7	0.883463	7	0.212121
8	7.755576	8	0.969447	8	0.242362	8	8.252126	8	1.009672	8	0.242362
9	8.725023	9	1.090628	9	0.272727	9	9.283641	9	1.135881	9	0.272727

As the Winchester and Imperial quarters are similarly divided, the first two columns in the right-hand Table will also serve for the conversion of Winchester bushels, pecks, gallons, and quarts respectively, into the same denominations in Imperial; while the inverse operation may be performed by means of the first two columns in the left-hand Table.

Reciprocal Conversion of Prices per Winchester and Imperial Measures.

Winchester into Imperial.						Imperial into Winchester.					
Win. a.	Imperial a.	Win. s.	Imperial s.	Win. d.	Imperial d.	Imp. a.	Winchester a.	Imp. s.	Winchester s.	Imp. d.	Winchester d.
1	1 0½	20	20 7½	1	1	1	0 11½	20	19 4½	1	1
2	2 1	25	25 15½	2	2	2	1 11½	25	24 2½	2	2
3	3 1½	30	30 23½	3	3	3	2 11½	30	29 1	3	3
4	4 2	35	35 31½	4	4	4	3 10½	35	33 11½	4	4
5	5 2½	40	41 39½	5	5	5	4 10½	40	38 9½	5	5
6	6 3	45	46 47½	6	6	6	5 10½	45	43 7½	6	6
7	7 3½	50	51 55½	7	7	7	6 9½	50	48 5½	7	7
8	8 4	55	56 63½	8	8	8	7 9½	55	53 3½	8	8
9	9 4½	60	61 71½	9	9	9	8 8½	60	58 1½	9	9
10	10 5	65	66 79½	10	10	10	9 8½	65	63 1½	10	10
15	15 7½	100	101 118½	15	15	15	14 6½	100	98 11½	15	15

* These tables being expressed decimally, we have deemed it unnecessary to go higher than the nine digits, as the others can readily be obtained from them, merely by transposition of the decimal point, and addition. Thus, as 9 Winchester qrs. = 8.725023 Imperial qrs.; 90 Winchester qrs. = 87.25023 Imp. qrs., and adding these respective quantities, we have 99 Winchester qrs. = 95.975253 Imp. qrs. [DECIMAL FRACTIONS.]

for Converting Scots Land Measure into Imperial; and also for Converting Prices per Scots Measure into Prices per Imperial Measure.

Scots into Imperial Land Measure.					Conversion of Prices.									
Scots acres.	Scots fath.	Imperial acres.	Scots fath.	Imperial acres.	Scots.	Imperial.	Scots.	Imperial.	Scots.	Imperial.	Scots.	Imperial.	Scots.	Imperial.
0.2134000	1	0.07708	1	0.07708	1	0 13 10	1	0 13 10	1	0 13 10	1	0 13 10	1	0 13 10
0.4268017	2	0.15416	2	0.15416	2	1 11 24	2	1 11 24	2	1 11 24	2	1 11 24	2	1 11 24
0.6402034	3	0.23124	3	0.23124	3	2 7 04	3	2 7 04	3	2 7 04	3	2 7 04	3	2 7 04
1.2804068	4	0.46248	4	0.46248	4	3 3 3	4	3 3 3	4	3 3 3	4	3 3 3	4	3 3 3
1.9206102	5	0.69372	5	0.69372	5	3 19 3	5	3 19 3	5	3 19 3	5	3 19 3	5	3 19 3
2.5608136	6	0.92496	6	0.92496	6	4 15 1	6	4 15 1	6	4 15 1	6	4 15 1	6	4 15 1
3.2010170	7	1.15620	7	1.15620	7	5 11 0	7	5 11 0	7	5 11 0	7	5 11 0	7	5 11 0
3.8412204	8	1.38744	8	1.38744	8	6 6 10	8	6 6 10	8	6 6 10	8	6 6 10	8	6 6 10
4.4814238	9	1.61868	9	1.61868	9	7 2 20	9	7 2 20	9	7 2 20	9	7 2 20	9	7 2 20
5.1216272	10	1.84992	10	1.84992	10	7 18 00	10	7 18 00	10	7 18 00	10	7 18 00	10	7 18 00
5.7618306	11	2.08116	11	2.08116	11	8 13 9	11	8 13 9	11	8 13 9	11	8 13 9	11	8 13 9
6.4020340	12	2.31240	12	2.31240	12	9 8 18	12	9 8 18	12	9 8 18	12	9 8 18	12	9 8 18

but two columns will answer likewise for converting Scots rods into Imperial rods, and Scots to Imperial poles or perches. The table for the conversion of prices shows the equivalents per acre, rod, or perch, of the given rates per Scottish acre, rod, or fall, respectively.

ASURES AND DIVISIONS OF TIME. The principal measures of time are furnished by nature in the rotation of the earth on its axis, the revolution of sea round the earth, and the revolution of the earth round the sun,—periods sively denoted by the terms Day, Month, and Year. For ordinary purposes, or, these are reckoned by approximate or conventional methods. The Civil is the mean solar day. The Lunar Month is, except in Eastern countries, added by the Kalender Month. The Civil Year, or mean solar year, was ed by Julius Cæsar (n. c. 45), who, estimating the solar revolution at 365 1 hours, fixed that the year should consist of 365 days in three successive and 366 in the fourth, called leap year. This method, denominated *Old Style*, depted and continued by all Christian nations until a. d. 1582, when it was wed that the Julian year was too long by about 11 minutes,—the true length solar year being 365 days, 5 hours, 49 minutes nearly. To rectify this error, had then led to an advance of about 10 days, Pope Gregory XIII. ordained he year 1582 should consist of 355 days only; and, to prevent a like irregular-future, it was decreed that when a number denoting a complete century is ivisible by 4, as the 17th, 18th, and 19th, such years should be reckoned as on years,—an arrangement involving an excess of but one day in 5200 years. Gregorian Kalender, or *New Style*, was gradually adopted in all Christian rics, except those which acknowledge the Greek Church,—Russia and Greece. rtain, it was adopted in 1752, when the difference of time being 11 days, enacted that the 3d of September of that year should be called the 14th. g the present century, the Old Style is to be reckoned 12 days later than the style. Thus, a Russian or Greek bill dated the 10th day of any month, must eoned from the 22d day of the same month in every place where the Grege-alendar is used.

REGNAL YEARS OF SOVEREIGNS are commonly used in dating public docu-. In the following table the periods when the sovereigns began to reign are on the authority of Sir Harris Nicolas' "Chronology of History."

ENGLISH SOVEREIGNS FROM THE CONQUEST.

Reign.	Reign.	Reign.	Reign.	Reign.	Reign.
1066 Dec. 25	1066 Dec. 25	1066 Dec. 25	1066 Dec. 25	1066 Dec. 25	1066 Dec. 25
1067 Sept. 26	1067 Sept. 26	1067 Sept. 26	1067 Sept. 26	1067 Sept. 26	1067 Sept. 26
1100 Aug. 5	1100 Aug. 5	1100 Aug. 5	1100 Aug. 5	1100 Aug. 5	1100 Aug. 5
1126 Dec. 26	1126 Dec. 26	1126 Dec. 26	1126 Dec. 26	1126 Dec. 26	1126 Dec. 26
1134 Dec. 16	1134 Dec. 16	1134 Dec. 16	1134 Dec. 16	1134 Dec. 16	1134 Dec. 16
1180 Sept. 7	1180 Sept. 7	1180 Sept. 7	1180 Sept. 7	1180 Sept. 7	1180 Sept. 7
1190 May 27	1190 May 27	1190 May 27	1190 May 27	1190 May 27	1190 May 27
1216 Dec. 28	1216 Dec. 28	1216 Dec. 28	1216 Dec. 28	1216 Dec. 28	1216 Dec. 28
1272 Nov. 20	1272 Nov. 20	1272 Nov. 20	1272 Nov. 20	1272 Nov. 20	1272 Nov. 20
1277 July 8	1277 July 8	1277 July 8	1277 July 8	1277 July 8	1277 July 8
1277 Jan. 25	1277 Jan. 25	1277 Jan. 25	1277 Jan. 25	1277 Jan. 25	1277 Jan. 25
1277 June 27	1277 June 27	1277 June 27	1277 June 27	1277 June 27	1277 June 27
1280 Sept. 24	1280 Sept. 24	1280 Sept. 24	1280 Sept. 24	1280 Sept. 24	1280 Sept. 24
1413 Mar. 21	1413 Mar. 21	1413 Mar. 21	1413 Mar. 21	1413 Mar. 21	1413 Mar. 21
1423 Sept. 3	1423 Sept. 3	1423 Sept. 3	1423 Sept. 3	1423 Sept. 3	1423 Sept. 3
1461 Mar. 4	1461 Mar. 4	1461 Mar. 4	1461 Mar. 4	1461 Mar. 4	1461 Mar. 4
1483 April 21	1483 April 21	1483 April 21	1483 April 21	1483 April 21	1483 April 21
1483 June 26	1483 June 26	1483 June 26	1483 June 26	1483 June 26	1483 June 26
1483 Aug. 23	1483 Aug. 23	1483 Aug. 23	1483 Aug. 23	1483 Aug. 23	1483 Aug. 23
1500 April 24	1500 April 24	1500 April 24	1500 April 24	1500 April 24	1500 April 24
1547 Jan. 26	1547 Jan. 26	1547 Jan. 26	1547 Jan. 26	1547 Jan. 26	1547 Jan. 26
1553 July 6	1553 July 6	1553 July 6	1553 July 6	1553 July 6	1553 July 6
1558 Nov. 17	1558 Nov. 17	1558 Nov. 17	1558 Nov. 17	1558 Nov. 17	1558 Nov. 17
1603 Mar. 24	1603 Mar. 24	1603 Mar. 24	1603 Mar. 24	1603 Mar. 24	1603 Mar. 24
1625 Mar. 27	1625 Mar. 27	1625 Mar. 27	1625 Mar. 27	1625 Mar. 27	1625 Mar. 27
1649 Jan. 30	1649 Jan. 30	1649 Jan. 30	1649 Jan. 30	1649 Jan. 30	1649 Jan. 30
1688 May 25	1688 May 25	1688 May 25	1688 May 25	1688 May 25	1688 May 25
1688 Feb. 6	1688 Feb. 6	1688 Feb. 6	1688 Feb. 6	1688 Feb. 6	1688 Feb. 6
1689 Feb. 13	1689 Feb. 13	1689 Feb. 13	1689 Feb. 13	1689 Feb. 13	1689 Feb. 13
1689 Dec. 30	1689 Dec. 30	1689 Dec. 30	1689 Dec. 30	1689 Dec. 30	1689 Dec. 30
1702 Mar. 4	1702 Mar. 4	1702 Mar. 4	1702 Mar. 4	1702 Mar. 4	1702 Mar. 4
1714 Aug. 1	1714 Aug. 1	1714 Aug. 1	1714 Aug. 1	1714 Aug. 1	1714 Aug. 1
1727 June 11	1727 June 11	1727 June 11	1727 June 11	1727 June 11	1727 June 11
1740 Oct. 25	1740 Oct. 25	1740 Oct. 25	1740 Oct. 25	1740 Oct. 25	1740 Oct. 25
1760 Jan. 25	1760 Jan. 25	1760 Jan. 25	1760 Jan. 25	1760 Jan. 25	1760 Jan. 25
1831 June 20	1831 June 20	1831 June 20	1831 June 20	1831 June 20	1831 June 20
1837 June 20	1837 June 20	1837 June 20	1837 June 20	1837 June 20	1837 June 20

some historical, and in all legal documents, the reign of Charles II. is reckoned from the of his father, Charles I.

The Terms recognized in the different divisions of the United Kingdom for loans and money-payments are as follow:—

In England and Ireland: Lady Day, March 25; Midsummer, June 24; Michaelmas Day, September 29; and Christmas, December 26.

In Scotland: Candlemas, February 2; Whitunday, May 15; Lammas, August 1; and Martinmas, November 11. When any of these falls on Sunday, the following Monday is considered to be the Term Day.

GENERAL CALENDAR FROM 1700 TO 1900.

Years.							Months.		Sundays.						
G	F	E	D	C	B	A			1	2	3	4	5	6	7
1700	1700	1800	1801	1802	1803				8	9	10	11	12	13	14
1804	1805	1806	1807	1808	1809				15	16	17	18	19	20	21
1810	1811		1812	1813	1814	1815			22	23	24	25	26	27	28
	1816	1817	1818	1819	1820				29	30	31				
1821	1822	1823		1824	1825	1826	January		A	B	C	D	E	F	G
1827		1828	1829	1830	1831		October		B	C	D	E	F	G	A
1832	1833	1834	1835	1836	1837		May		C	D	E	F	G	A	B
1838	1839		1840	1841	1842	1843	August		D	E	F	G	A	B	C
	1844	1845	1846	1847	1848		February (leap year) . .		E	F	G	A	B	C	D
1849	1850	1851		1852	1853	1854	February		F	G	A	B	C	D	E
1855		1856	1857	1858	1859		March		G	A	B	C	D	E	F
1860	1861	1862	1863	1864	1865		November								
1866	1867		1868	1869	1870	1871	June								
	1872	1873	1874	1875	1876		September								
1877	1878	1879		1880	1881	1882	December								
1883		1884	1885	1886	1887		January (leap year) . .								
1888	1889	1890	1891		1892	1893	April								
1894	1895		1896	1897	1898	1899	July								

Use.—To find the day of the week answering to May 4, 1800.—Above 1800 in the left-hand table, is found the Dominical or Sunday Letter D; and over D, contiguous to May, in the right-hand table, is the figure 3, the date of Sunday; the 4th, therefore, is Monday.

The converse of this operation, namely, to find the day of the month corresponding to the day of the week, is too evident to require illustration.

The months January and February, it will be observed, are to be referred to separately in leap years: each year may be known by a blank space always preceding them in the left-hand table.

The MOHAMMEDAN CALENDAR dates from the flight of the prophet from Mecca to Medina, which, according to the civil calculation, occurred on July 16, A.D. 622, hence called the epoch of the *era of the Hegira*. The years of the Hegira are lunar years, and contain 12 lunar months, each commencing with the new moon; a practice which leads to great confusion, as each lunar month retrogrades through all the different seasons in nearly 32½ solar years. The months consist, like ours, of weeks, each day of which begins in the evening after sunset. As the lunar year consists of 354 days and 11-30ths of a day, a fraction which, in the course of 30 years, amounts to 11 days; the years of the Hegira are divided into cycles of 30 years; 19 of which are termed common years of 354 days each, and the 11 others intercalary, or *abounding years*, from their consisting of one day more: these are the 2d, 5th, 7th, 10th, 13th, 16th, 18th, 21st, 24th, 26th, and 29th. To ascertain whether any given year be intercalary or not, divide it by 30; and if any of the above numbers remain, the year is one of 355 days. In chronology, history, and public documents, the Turks use months which contain alternately 30 and 29 days, except the last month, which in intercalary years contains 30 days. The names of these months, with the length of each, are as follow:—Moharram, 30; Saphar, 29; Rabi' 1. 30; Rabi' 2. 29; Guimadhi 1. 30; Guimadhi 2. 29; Redgeb, 30; Schaban, 29; Ramadhan, 30; Schawal, 29; Dhu'l Kadah, 30; Dhu'l Hajjah, 29, and in intercalary years 30 days.

The day on which any year of the Hegira begins will be ascertained with tolerable accuracy by the following calculations.—Multiply the years elapsed by 3543; cut off six decimals; add 622.54, and the sum will be the year of the Christian era, and decimal of the day following in old style. Again, to reduce the Christian era to the Mohammedan, subtract 622 from the current year; multiply by 1.0007; cut off four decimals, and add .46: the sum will be the year and decimal of the day, old style.

The following table, derived from the splendid French work "L'Art de Vérifier les Dates," shows the day of the Christian calendar on which each Mohammedan year begins, from A.D. 1840 to 1900; from which, and the preceding list of months, the general correspondence of dates may be easily determined.

Year	Month	Day	Year	Month	Day	Year	Month	Day
1800*	March	4	1877	July	20	1808	Dec.	4
1807	Feb.	23	1878*	July	9	1809	Nov.	23
1810	Feb.	12	1879	June	29	1810*	Nov.	12
1810*	Feb.	1	1880	June	18	1811	Nov.	9
1810	Jan.	28	1881*	June	8	1812	Oct.	27
1811	Jan.	10	1882	May	27	1813*	Oct.	16
1810*	Dec.	20	1883	May	16	1814	Sept.	20
1812	Dec.	20	1884*	May	5	1815	Sept.	10
1814	Dec.	9	1885	April	24	1816*	Sept.	7
1816*	Nov.	27	1886*	April	13	1817	Aug.	20
1818	Nov.	17	1887	April	3	1818*	Aug.	17
1817*	Nov.	6	1888	March	23	1819	Aug.	7
1819	Oct.	27	1889*	March	11	1820	July	20
1819	Oct.	15	1890	March	1	1821*	July	13
1820*	Oct.	4	1891	Feb.	18	1822	July	3
1821	Sept.	24	1892*	Feb.	7	1823	June	24
1822	Sept.	13	1893	Jan.	20	1824*	June	13
1823*	Sept.	1	1894	Jan.	10	1825	June	3
1824	Aug.	29	1895*	Jan.	3	1826*	May	23
1825	Aug.	11	1896	Dec.	26	1827	May	12
1826*	July	31	1897*	Dec.	13	1828	May	1

* Intercalary or abundant year.

In scientific computations, the Mohammedans use the solar year; but always according to the Julian calendar or old style.

MECKLENBURG-SCHWERIN, a grand-duchy lying in N. Germany, between the Baltic and the Elbe, contiguous to Prussia, Hanover, and the territory of Lübeck. Area, 4786 sq. miles. Population, 494,530. Government, a constitutional monarchy.

The country is generally level and fertile; agriculture is the chief employment of the people; and the manufactures are innumerable, though some pains are bestowed on those of linen and woolen. The exports consist almost wholly of farm-produce; and, according to Mr Meck's report (*Par. Paper*, 1868, No. 7), they amounted, on an average of the 3 years 1836-1841, to 935,000 quarters wheat; 79,674 qrs. rye; 35,345 qrs. barley; 20,225 qrs. oats, and 20,227 qrs. peas; besides 200,000 lbs. wool, mostly of fine quality, 1,500,000 lbs. bones, rapeseed cake, hides, and other articles. The imports embrace most kinds of manufactures and tropical produce, salt, wine, oil, hemp, &c. The foreign trade is conducted partly through Hamburg by the Elbe, but chiefly at the ports of Rostock and Wismar on the Baltic, and the principal intercourse is with England. The trade of the grand-duchy, however, is much checked by the vicinity of Hamburg and Lübeck, and the heavy duties imposed by the Prussian tariff.

Rostock, the chief port and largest town, lies in lat. 54° 8' N., long. 12° 30' E. on the river Warnow, about 9 miles from its mouth; pop. 16,500. In 1840, 705 vessels entered the port; and about 200 vessels, burthen 25,328 tons, belong to it.

Measures and Weights.—At Rostock the oil of 2 feet = 200 Brit. inches. The liquid measures are the same as in Lübeck. The Mecklenburg bushel = 107 Brit. bushel. 100 Rostock lbs. = 112 lbs. avoird.; but the weights chiefly used are those of Lübeck and Hamburg.

Money.—Accounts are stated in thalers or talers of 40 schillings, each of 12 pennings; but in marks of 16 schillings. The dollar = 4 dds. The principal coin is the Constitution piece, which is estimated at 38 schillings. Foreign exchanges are transacted chiefly through the merchants of Hamburg, the usual rate being 20 dollars for 100 marks banco.

In the E. of Mecklenburg, Prussian money and measures are common.

The Duties are levied according to a tariff published in Rostock in 1748, called the *Actio Rellie*, and at that port they average, including town duties, contributions, and bridge-money, about 3 per cent. There are no exports do not exceed this rate. The port charges at Rostock are very small, indeed lower than at any other place in the Baltic.

The Revenue is about £440,000, of which nearly £300,000 are produced by the domains. The debt is about £750,000.

MECKLENBURG-STRELITZ, a grand-duchy contiguous to the foregoing, with which indeed it is united by a compact called the Landau-Union, made in 1823. Area, 1092 sq. miles; pop. 20,528. Being situated at a distance from the ocean, and of small size, it possesses no commercial interest. [GERMANY.]

MEDIDA, a Brazilian measure equal 4½ imp. pints nearly.

MEDLAR, the fruit of the *Mespilus Germanica*, a native of the south of Europe, but cultivated, though to a small extent, in this country. It resembles the smaller apple, and possesses considerable flavour, but does not attain the ripeness fit for use until some time after it has been taken from the tree. The Nottingham medlar is the finest, but the Dutch, a larger variety, is the kind most prized in England.

MEERSCHAUM, or earthy carbonate of magnesia, is a light substance, of a white or yellowish colour; soft when first dug, but hardens on exposure to the air. Principal localities, Samos, Negropent, Natolia, and Moravia. It is the material used in the manufacture of Turkish pipes, and is also employed as fuller's earth.

MERCANTILE SYSTEM, a theory of political economy, formerly in high repute, which was based on the principles that wealth consisted in gold and silver, and that those metals could be brought into a country that had no mines only by exporting to a greater amount than it imported. Its two great engines for enriching the country, therefore, were restraints upon importation, and encouragement to exportation. Importation was restrained by imposing prohibitions or high duties,—1st, Upon such foreign goods for home consumption as could be produced at home; and, 2d, Upon goods of almost all kinds from those particular countries with which the balance of trade was supposed to be disadvantageous. Exportation again was encouraged by—1st, Drawbacks; 2d, Bounties; 3d, Securing commercial privileges in some foreign state beyond what were granted to other countries; and, 4th, Monopolizing wholly or partially the trade of the colonies. The mercantile system was overthrown by Adam Smith, by whom it is discussed in the fourth book of the *Wealth of Nations*, to which we must refer for a full exposition of its fallacies. In the present work, further information will be found under the heads **BALANCE OF TRADE, BOUNTY, COLONY, and COMMERCE.**

MERCURY or QUICKSILVER (Fr. *Mercure*. Ger. *Quecksilber*. Sp. *Azogue*), a brilliant silver-white metal, distinguished by being fluid at a natural temperature. Sp. gr. 13.57. It boils at 670°. At 40° below zero it becomes solid. When thrown on a table it collects into a globule, and, provided it is pure, runs without leaving a tail. Mercury is found native in small quantities; but for commercial purposes it is always extracted from the ore called *cinnabar*, a bisulphuret of the metal, found in Austria, Spain, Japan, China, and South America. The most productive mines are those of Almaden, near Cordova in Spain, which have been worked upwards of 2000 years; of Idria in Austria, and of Huancavelica in Peru. It occurs massive and crystallized, and of a red colour. Cinnabar is also prepared artificially by a combination of 8 parts mercury and 1 of sulphur; and the product is a red crystallized mass, which, when reduced to powder, is a beautiful scarlet, extensively employed as a pigment under the name of *vermilion*.

Mercury is principally employed for amalgamation with other metals, chiefly gold and silver, so as to extract them from their ores. It is used also in gilding, in silvering mirrors, and for various philosophical instruments. In medicine it is employed in several forms. The whitish insipid powder termed *calomel* is the protochloride of mercury; and the acrid nauseous white substance, known as *corrosive sublimate*, is the bichloride. The latter has of late been likewise extensively employed for the prevention of dry-rot.

The imports of mercury into this country, almost wholly from Spain, amount annually to about 2,000,000 lbs.; of which about one-eighth only is entered for home consumption. The remainder is re-exported chiefly to Mexico and Chili; but in considerable quantities also to Guatemala, the United States, and East Indies; while smaller shipments are made to Russia, Germany, Belgium, and other places.

Tares, in leather bags, 4 lbs. each; in iron bottles, weighing 3 qrs. 8 lbs., 15 lbs. per bottle.

MERINO, a fine kind of woollen fabric. [WOOLLEN MANUFACTURES.]

METRE, the rudimentary unit of the metrical system of France, fixed at the ten-millionth part of the quadrant of the meridian, is equal 39.37079 inches.

MEXICO, UNITED STATES OF, formerly the viceroyalty of New Spain, is now a federative republic, occupying the S. part of North America and N. part of Central America, betwixt 16° and 42° N. lat. It consists of 19 states, 5 territories, and a federal district, besides an extensive outlying tract. Area of the states, 833,600 sq. miles. Population of the whole, variously estimated at from 6,000,000 to 8,000,000, of which about one-half are Indian aborigines, 1,250,000 whites, and the remainder mixed races. Capital, Mexico, an inland city; pop. 140,000. The Congress of the union consists of a president, vice-president, and of two legislative bodies—the Senate and the House of Representatives.

About one-half of the surface of Mexico is situate within the tropics, while the rest belongs to the temperate zone; but of the former more than three-fifths have a mild atmosphere, as nearly the whole interior is composed of an immense table-land of the mean height of 7000 feet, continuous with the Andes of S. America, and running from 18° to 40° N. latitude. In the course of this tract, however, detached mountains occur which rise into the region of perpetual snow. The table-land gradually declines towards the temperate zone; but the descent towards the coasts, especially the E. coast, is by a graduated series of terraces, which produce an extraordinary diversity of vegetation, and at same time oppose great difficulties to the communication between the maritime districts and the interior, rendering it difficult to transport merchandise, except on muleback. In the equinoctial region there are only two seasons,—the wet, from June or July to September or October, and the dry, which lasts eight months: in this district the different climates rise as it were one above another from the shore, where the mean temperature is about 78° Fahr., to the central plains, where it is about 62°. The coast is humid and unhealthy for strangers, but

and is remarkable for its salubrity; most of the population of the country being concentrated in the latter. The summit of the table-land is almost destitute of vegetation, owing to the moisture; but muriate of soda and other saline substances exist in great abundance. The fertile districts are in general productive. Maize is the chief object of culture; besides which, manioc, the cereal grains, rice, and the potato, form the common food of the people. Wheat is of the finest quality, and would form a staple export, but for the difficulty of sending it to the seacoast. The narrow insalubrious plain along the coast called the *tierra caliente*, or hot country, is remarkable for its luxuriant vegetation. The chief productions are the cotton, cocoa, indigo, and tobacco. The southern part of the country, forming the *Sierra Madre*, is celebrated for the variety and importance of its woods and medicinal plants,—including nutmeg, vanilla, jalap, and storax, besides the tree which nourishes the cochineal. Vast herds of horses, mules, and horned cattle cover the plains of the northern states. The mines of Mexico, however, constitute the chief source of its wealth, particularly those of which indeed are by far the most valuable in the world. Gold is obtained, but only in small quantities. Copper, tin, iron, lead, and mercury, are also to be found. The gold is procured from river deposits by washing, particularly in the province of Sonora: the veins of this metal are most common in Oaxaca. The silver is mostly procured from veins, and the following is a list of the richest mines:—Guanaxuato, in state or province of that name; Catorce, in San Luis Potosí; Real del Monte, near Mexico; Bolanos, in Jalisco; Guadalupe, in Durango; Sombrerete, in Zacatecas; Tasco, near Mexico; Batopilas, in Durango; Guadalupe, near Mexico; Trenzillo, in Zacatecas; Ramos, in San Luis de Potosí; Parral, in Durango.

According to Mr Ward (*Mexico in 1827*, vol. ii. p. 38), the annual average produce of the mines before the revolution in 1810 amounted to \$24,000,000 (£4,800,000), and the average exports to \$10,000,000 (£2,000,000); but after that event, the unsettled state of the country, the emigration of the Old Spaniards, and the withdrawing of the funds which kept the mines in operation, the produce fell off; and in 1821, when the separation from the mother-country became complete, the coinage sunk to \$8,067,560 (£1,613,512). In a few years afterwards, extraordinary efforts were made by British capitalists to restore the mines, and during the speculative period of 1825, many joint-stock companies were formed for this purpose. These associations were formed with great spirit, and their shares speedily attained extravagant premiums; but it was soon found that every thing had to be reconstructed. The expenses attending the preliminary operations exceeded nearly the whole subscribed capital; while, owing to the defective mode of extracting, and the mismanagement of many of the companies' agents, the produce was much less than expected; and, in consequence, many of the undertakings were abandoned. Within a period of no less than £3,000,000 of British capital were expended in enterprises connected with the mines; besides considerable investments by American and German companies. Notwithstanding these exertions, and the more improved processes which are understood to have been introduced, the silver produced at present is not estimated to exceed £2,300,000; nor the gold, the former being thus only about one-half, and the latter scarcely above one-third of what was produced before the revolution. [BULLION.] The English companies at present in Mexico are six in number, and the funds invested by each are estimated as follows:—Real del Monte, £1,000,000; United Mexican, £1,200,000; Anglo-Mexican, £1,000,000; Bolanos, £150,000; Guadalupe, £180,000; Catorce, £60,000. The Bolanos is said to have been the most successful. The mines in Mexico are generally in a rude state. The best were formerly those of gold and silver, and plated articles, though these have now probably declined; coarse earthenware, woollens, and silks, are made in some parts of the interior; also soda, soap, gunpowder, and leather. The external commerce of Mexico, viewed comparatively with its population and natural resources, is inconsiderable. This is occasioned partly by the difficult communication between the interior and the coast, but mainly to the continued dissensions which have prevailed since the revolution. The exports, which may be estimated at from £3,000,000 to £3,500,000 a-year, consist chiefly of silver, which, with cochineal and gold, is mostly sent to Britain; there are, besides, copper (sent from Gaymas to China), indigo, coffee, cotton, hides (shipped from California), tobacco, jalap, sarsaparilla, vanilla, Campeachy wood, and other drugs and

The principal import is quicksilver, of which about 6,000,000 lbs. are annually consumed in Mexico; it is mostly brought from England, into which it is carried from Spain; cottons, and linens, are brought from Britain, also iron, hardware, arms, and earthenware and linen from Germany; paper from Italy and France; wine and brandy from France; olive-oil from Spain; hats from France; spices from England, East India, and China; silks from China, Britain, and France; cocoa from Venezuela and Ecuador. The value of British produce and manufactures sent annually to Mexico fluctuates generally between £400,000 and £700,000. An extensive trade is carried on with the United States, and the Mexican products find a ready market, and are paid for in the manufactures of Great Britain or of Europe.

The principal ports for foreign trade are—in the Gulf of Mexico, Vera Cruz, Tampico, Campeachy, Minatitlán, Sisal, and Tabasco; on the Pacific, San Blas, Mazatlan, and Acapulco; in the Gulf of California, Guaymas; and on the Sea of Upper California, Monterey. Of these, Vera Cruz, on the east coast, in lat. 19° 15' N. long. 96° 20' W., distant 90 leagues from Mexico, and formerly the sole port for European commerce, is still that to which the greatest amount of imports is sent; it has yet also the principal export-trade in all commodities except the precious metals, mostly sent from Tampico, the port nearest to the richest mining districts. Vera Cruz is fortified by the celebrated castle of San Juan de Ulloa; it is very unhealthy; and its harbour is a bad anchorage, open to the north winds, which blow with dreadful impetuosity from April to November. Indeed, scarcely any of the ports on the east side are good,—an accumulation of ships being constantly driven into them by the trade-winds. The shipping frequenting the ports is of inconsiderable amount, owing to the staples of its trade being mostly articles of great value in small bulk.

MEASURES, MONEY, FINANCES, &c.

The Measures and Weights are in general those of SPAIN; but the British yard and French aune are also used in the sale of European piece-goods.

Money.—The principal money of account in Mexico, and throughout Spanish America, is the piastre or dollar (\$), which is divided into 8 reals, or 100 cents. The real is also divided into 16 quartos or 34 maravedis; into 2 medios, 4 quartillos, or 8 ochavos; and, as in paying duties, into 12 granos.

The coins are,—In gold, doubloons or ounces (nominally of 16 dollars), also $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{8}$ doubloons: In silver, dollars, $\frac{1}{2}$ dollars, $\frac{1}{4}$ dollars or pesetas, and reals of Mexican plate: In copper, quartillos, and clacos or ochavos. The gold coins throughout Spanish America are generally minted, as in Spain, at the rate of $8\frac{1}{2}$ doubloons to the Castile mark, 21 carats fine; making the doubloon, when of full weight, worth £3, 4s. 8 $\frac{1}{2}$ d. The silver coins (except in the Colombian states) are also generally minted as in Spain at the rate of $8\frac{1}{2}$ dollars, 17 half-dollars, 34 pesetas, or 68 reals to the Castilian mark. The standard of the dollar, which is usually termed the hard dollar (*peso duro* or *fuerte*), and sometimes the Spanish dollar, is $10\frac{1}{2}$ dineros fine in 12, and its value, when of full weight, is 4s. 2 $\frac{1}{2}$ d. The half-dollar is of proportional value. The pesetas and reals, however, are always inferior. The Spanish standard for these smaller coins is $9\frac{1}{2}$ dineros fine; but in several of the new republics this standard has been reduced: in BOLIVIA it is now only 8 dineros, or $\frac{2}{3}$ ds pure silver to $\frac{1}{3}$ d of alloy.

The dollar of account is reckoned both in the small base coins (which form the ordinary currency of the Spanish-American states) and in hard dollars; the latter occur chiefly in foreign trade. The usual exchange of the hard dollar is about 48d.; or, what is the same, \$5 per £1,

or \$500 per £100. Remittances to Europe, however, are commonly made in specie.

Duties on imports are regulated by a tariff, non-enumerated articles in which pay 40 per cent.; quicksilver, tools, and seeds are free. Articles, the produce of Mexico, may be exported duty free, except the precious metals, which, in the shape of ore, ingots, or dust, are prohibited; gold, wrought or coined, pays 2 per cent., and silver $3\frac{1}{2}$ per cent. The import duties, being generally high, they are evaded by many devices, which are connived at by the customs officers, who are notoriously corrupt.

Finances.—The public revenue was lately stated to average about \$12,500,000 (£2,500,000), mostly derived from customs; but this is exceeded by the charges upon it, and the finances have been long in a disordered state. The domestic debt is considerable; and there is a foreign debt, originally composed of two English loans; one in 1824 of £3,200,000, 5 per cents, negotiated at 58 per cent.; the other, in 1825, of the same amount, of 6 per cents, raised at 80 $\frac{1}{2}$. By a subsequent arrangement, the unredeemed portions of these loans, with the arrears of interest due on them, were consolidated; the 5 per cent. being taken at par, and the 6 per cents at 115 $\frac{1}{2}$ per cent.; and the whole created into a 5 per cent. stock, amounting to £9,247,378, 8s. 6 $\frac{1}{2}$ —one-half, £4,623,689, 4s. 3d., bearing interest from 1st October 1837; the other half, called "Deferred Bonds," to bear interest from 1st October 1847. Little has since been done towards payment of the dividends.

A Treaty between Mexico and Great Britain was executed on 26th December 1825, providing for the protection and security of their commerce, and placing the two states respectively towards each other on the footing of the most favoured nations.

MICA, a finely foliated mineral substance, sometimes used as a substitute for glass, particularly in certain kinds of stoves, to enclose the fire without concealing the flame. The large sheets of mica met with in this country are mostly imported from Siberia.

MILE, an itinerary measure, varying in different countries. [MEASURE.]

MILK (Fr. *Lait*. Ger. *Milch*), a secreted liquid intended for the nourishment of the young of mammiferous animals. The milk of the cow is that chiefly used by mankind. Butter is obtained from this fluid by agitation, and cheese by coagulation. The cow yields her milk most plentifully for some time after calving; then gradually yields less and less; and for six weeks or more previous to bringing forth her young, she usually becomes dry. The quantity varies greatly with the health, constitution, and treatment of the animals; but on a well-managed dairy-farm, where a proper breed of cows exists, the average yearly produce may be reckoned at from 700 to 800 gallons for each. Two gallons of milk or a little more will yield about 1 lb. of butter; and from 7 to 8 pints will yield 1 lb. of cheese (*Low's Agriculture*). Milk is only raised for direct sale in the neighbourhood of towns: in London and its environs, Mr Youatt estimates that 12,000 cows are kept at present for that purpose alone. At greater distances from towns, milk is generally converted into butter; and in still more remote places into cheese, or into butter which is salted. Mr M'Queen values the annual produce of the dairy in the U. K. as follows:—Milk, £12,000,000; butter, £13,500,000; cheese, £7,000,000; total, £32,500,000.—(*Statistics*, p. 48.)

MILLET, a kind of grain (*Holcus*) imported into this country from Germany and the south of Europe, chiefly for feeding small birds. There are a variety of different species. In most countries lying under the warmer latitudes of the temperate zone, the millets form a very essential article of domestic economy, being deprived of the husk and used whole as rice, or ground into meal and flour, and made into bread.

MILREA, the integer of account in BRAZIL and PORTUGAL.

MINIUM, or RED LEAD, is massicot finely ground and calcined. It is a

d powder, but with a liability to turn black. It is used in painting, in the manufacture of glass, and in surgery.

MINOT, an old French measure, equal 1·073 Imp. bushel.

MISCAL, an Oriental weight, equal 74 troy grains nearly.

MOCHA STONE, is a semi-transparent calcedony, including various ramified veins produced by iron, or other mineral substances, but sometimes also by the presence of vegetable bodies, such as mosses. The finest are found in Gujerat, but received their name from having been brought from Mocha. An inferior sort is also found in Germany.

MODENA, a ducal state in N. Italy, between the Papal States and Parma. Area, 2080 sq. miles. Population in 1833, 403,500. The government is the most absolute in Italy.

About one-half of the territory is covered by the chain of the Apennines and its offshoots; one-third more forms part of the plain of Lombardy; and a small but rich strip extends along the shores of the Mediterranean. Principal towns, Modena and Reggio. Exports, horned cattle, wine, fruit, silk, corn, brandy, wine, vinegar, and the marble of Carrara, both wrought and unwrought, which employs 1200 workmen, and yields annually about £30,000. A great fair takes place at Reggio, in March.

The braccio of Modena = 24·31 Imp. inches; the braccio of Reggio = 20·85 Imp. inches. The stajo, land measure, of 72 tavole = 0·7009 Imp. acre. The stajo of corn = 1·94 Imp. bushel. The quintal of 100 Modena lbs. = 70·45 lbs. avoird.; and 100 Reggio lbs. = 72·74 lbs. avoird.

The general money of account is the lira Italiana, divided into 100 centimes, and equal in value to the French franc, or 9½d. The old Modena lira of 20 soldi or 240 denari = 3½d.; and the lira of Reggio = 2½d.

MOGIO, an Italian measure of capacity, varying in different places.

MOHAIR, the hair of the Angora goat; it is made into camlets, &c.

MOHUR, the principal gold coin of INDIA.

MOIDORE, or **LISBONNINE**, an old Portuguese gold coin, value 26s. 11½d.

MOLASSES. [SUGAR.]

MONEY, any commodity employed as a standard by which to measure the value of others, as the equivalent given for them, and as a medium of exchange. Various articles have, in different states of civilisation, been used to perform the functions of money,—as cattle, salt, furs, tobacco, silk, cowry shells, and some others; but in almost all parts of the globe these are now superseded by silver and gold, owing to their greater portability, divisibility, and indestructibility, and to their being less liable than almost any other commodities to fluctuations of value. In early ages, the denominations of money were identical with those of weight, and the metals were circulated in ingots or small masses. But as civilisation advanced, and transactions increased, the constant trouble of weighing them, and, in most instances, of also assaying them, produced a degree of inconvenience, that led to the introduction of small pieces, impressed with a national stamp, which rendered such operations unnecessary. These, under the name of COINS, became thus in general use in transactions between individuals belonging to the same political community; though silver and gold, in their former state of ingots or bars, have continued to be employed, in a greater or lesser degree, in international exchanges. Some states, in their coinage, have made use of one metal only as standard money, or *legal tender* to any amount; others, of both gold and silver, at a certain fixed relative value. In the United Kingdom the standard is gold, which is coined at the rate of 1869 sovereigns from 40 troy pounds of standard metal, or, what is the same, £3, 17s. 10½d. per ounce. In France, Austria, Russia, and most other continental states, there are two standards; but owing to the relative value of gold to silver being fixed by their mint regulations at a rate higher than their relative value in the market, the latter metal alone is practically in use as legal tender, and an *agio* on the mint rate has to be paid in order to procure gold. In the United States, where there are also two standards, this rule was reversed in 1834, when, owing to a reduction in the weight of their gold coin [EAGLE], that metal became the general medium for large payments instead of silver.

Of the precious metals, gold, from its superior portability, has been always preferred for large payments and foreign remittances. But, in the progress of society, it became gradually apparent that the advantages of metallic money were chiefly confined to its functions as a standard and equivalent of value; as a medium of exchange, its weight, the trouble of counting large sums, and the risk of losing while removing what has so great an intrinsic value, rendered it unfit for the extended operations of modern commerce. These inconveniences led, in the fourteenth century, to the introduction of bills of exchange; and, at a later period, to that modification of these instruments which has obtained the name of paper-money. The substitution of a cheap for an expensive medium of circulation, by

when, with £25,000,000, the estimated amount in coin, makes all £63,000,000. But, in viewing this as the amount of our currency, must be had to the extent to which the use of money is economised by bank-cheques and letters of credit, by the speedy, in many cases, return of notes, produced by the system of allowing interest on them, and by many other operations, not forgetting that of the Clearing-house payments ranging from £1,500,000 to £6,250,000, are effected daily by the bankers of London with only about £200,000 of bank-notes.* In France alone, from the absence of such facilities, comparatively in circulation is, the amount of coin in use is not under £100,000,000 of bank-notes, however, being only £12,000,000. (*Report on Banks of Issue*.)

The rate at which money exchanges for other articles is determined by its quantity. "If," says Mr Mill, "we suppose that all the goods of the country are exchanged for money on the one side, and that they are exchanged for other goods on the other, it is obvious that one-tenth or one-hundredth, or any other part of the goods, will exchange against one-tenth, or any part of the money; and that this tenth will be a great quantity or small portion as the whole quantity of the money in the country is." (*Prin. Econ.* c. 3, § 7). The quantity of money, however, is determined merely by its proportion to the amount of trade or of payments, and the relative rapidity of its circulation, and after allowing for the economy of its use is economised. Supposing the amount of trade and mode of circulation remain stationary, if the quantity of money be increased, its value will fall, and the price of other commodities will proportionally rise, as the latter will exchange against a greater amount of money; if, on the other hand, the quantity of money be reduced, its value will be raised, and prices in a corresponding degree diminished, as commodities will then have to be exchanged for a smaller amount of money. The converse of these changes will take place if the value of the money be altered, the amount of trade and mode of circulation, and the quantity of money remaining stationary. "In whatever degree, therefore, the quantity of money is increased or diminished, other things remaining the same, in that same proportion the value of the whole and of every part is reciprocally diminished or increased." Gold and silver, however, as products of industry, possess an intrinsic value, all other commodities, equivalent to the cost of producing them; in the case of metallic money, if its value in any country be reduced below that of other countries, it will be used or exported as bullion; while, on the other hand, if its value be increased above that level, it will become an object of export to other countries, and will be converted into coin. The value of metallic money in any country can only for a short time above or below its level in other countries, without producing a corresponding change in the value of the other commodities. A mixed currency, composed of coin, and paper convertible into coin, is obviously regulated by the same laws. But such is not the case with inconvertible paper-money; for, though under equal limitations as to its quantity, when constituted legal tender, be preserved of the same exchangeable value as coin, it is not subject to the same fluctuations of value as coin, and its value is determined by the confidence of the public in the issuing authority.

tries ; and hence, when issued in excess, it will become proportionally depreciated ; and this depreciation (which will be measured by the rate at which the paper exchanges against bullion) may, by continued additions, go on increasing, until its value as a medium of exchange is entirely dissipated. [ASSIGNATS. BANK.]

But although fluctuations in the value of a metallic or mixed currency, owing to variations in quantity, are subject to correction from the influence of the currencies of other countries, the case is different when any diminution is made on the weight of the coin. In this case, though preserving the same name, it will become permanently degraded ; and if reduced one-half, will as certainly be lowered in real value to the same extent, as a quarter of wheat would be by being reduced to four bushels. In ancient times, owing partly to erroneous conceptions of the nature of money, but chiefly to the injustice of sovereigns, who were thereby enabled to fulfil, in appearance, their engagements with a smaller quantity of gold and silver than would otherwise have been requisite, the degradation of the coin was a common act of public policy ; and the English pound was, in this way, reduced to 1-3d, the Scottish to 1-36th, and the French livre to 1-66th of their original values. Such an expedient is now almost unknown in civilized communities ; but a similar effect may be produced by fraudulent paring or by abrasion. When a seignorage is exacted higher than the expense of coinage, the intrinsic value of the coin will of course be less than its nominal value, but such coins can be used only, like British silver or copper, as a subordinate species of money for small payments, and under certain limitations as to quantity.

A currency may be accounted in its most perfect state when it consists of paper of a value precisely equal with the gold or silver which it professes to represent ; as no other instrument can fulfil in a higher degree the great requisites of a circulating medium,—convenience, cheapness, security, and steadiness of value. But considerable difference of opinion prevails in reference to the method best adapted for the practical attainment of these objects. Of late there has arisen a party, who, on the allegation that undue expansions and contractions of the currency have been the secret spring of all those alternations of commercial excitement and depression which have taken place in modern times,—advocate the separation of the functions of issue from those of banking, and the confining of the former to one state establishment, which should circulate a fixed amount of government paper-money (below the point to which a purely metallic currency would ever be reduced), and leave all fluctuations to take place in the precious metals alone, or in the notes of a bullion deposit bank ; or which should in some other way regulate the amount of the circulating medium, so that there should be no greater fluctuation than if it wholly consisted of the precious metals. Such plans, however, are opposed both by those who uphold the present system, and by those who, advocating the further extension of joint-stock banking, contend that the issues of paper are best regulated by free competition. By the latter it is urged that experience has shown that no single body can be safely intrusted with the privilege of issuing paper : That if there was but one such body, there would be sometimes too much money and sometimes too little for the wants of trade in different places : And that, after declaring a certain coin to be the sole standard of value and legal tender, and providing for the public registration of all the partners of a bank, and their unlimited responsibility for all its obligations, the lengthened experience of Scotland has shown that were government to confine its further interference to enforcing the fulfilment of contracts, it might safely be left to the parties themselves to judge of the degree of credit they should give to each other's engagements, and to adopt that mode of circulating such engagements which might appear to them to combine the greatest security with the greatest cheapness and convenience.

Upon these and the other plans advocated by writers on the currency, however, it is unnecessary to enlarge in this place. They form, as is well known, the subject of two reports in 1840 and 1841 by Committees of the House of Commons ; and such persons as feel an interest in the question will not satisfy themselves with any second-hand arguments, but will of course refer to those reports, or to works where the subject is treated in a manner suited to its importance.

In the preceding observations we have assumed gold and silver to be invariable as standards ; but in the article BULLION we have explained that in the course of ages these metals have themselves undergone great changes. In fact, no commodity can be depended on as a permanent measure of value. The facilities of its production will not always preserve the exact level of the average of other commodities, and move on in complete uniformity with the general progress of improve-

ment in the industrial arts. No kind of money at present in use, therefore, can be free from the great variations of value to which the precious metals themselves are liable. Such a currency, however, has been imagined. "It has been proposed," says Mr Ponlett Scrope, in his ingenious *Treatise on Political Economy*, "to correct the legal standard of value (or at least to afford to individuals the means of ascertaining its errors) by the periodical publication of an authentic price-current, containing a list of a large number of articles in general use, arranged in quantities corresponding to their relative consumption, so as to give the rise or fall, from time to time, of the mean of prices; which will indicate, with all the exactness desirable for commercial purposes, the variations in the value of money, and enable individuals, if they shall think fit, to regulate their pecuniary engagements by reference to this *Tabular Standard*" (p. 407). This proposition, however, is of too speculative a nature for consideration in the present work.

MONIES OF ACCOUNT are those denominations and divisions of money in which accounts are kept: in some countries these are not coins, but merely fixed proportions to coins, as was the case with the British pound sterling before the coining of the sovereign. In the Report by the Commissioners on the Standards of Weight and Measure, of 21st December 1841, the attention of the government is invited to the advantage and facility of establishing a decimal system of monies instead of that presently in use in this country. The facility consists in the ease of interposing between the sovereign (or pound) and the shilling, a new coin equivalent to two shillings (to be called by a distinctive name); of considering the farthing (which now passes as the 1-960th part of the pound) as the 1-1000th part of that unit; of establishing a coin of value equal to 1-100th part of the pound; and of circulating, besides these decimal coins, others bearing a simple relation to them, including the present shilling and sixpence.

MONOPOLY, a privilege granted by license, conferring on an individual or company the sole right of purchasing and disposing of, making or using, a certain specified article; the term is likewise sometimes used to denote the engrossing of commodities with the view of selling them at a high price. Monopolies were formerly granted by the sovereign, and they prevailed to a great extent in England in Queen Elizabeth's time; but, having become an intolerable grievance, they were abolished in the succeeding reign (21 Jac. I. c. 3), with the exception of patents for inventions or improvements for a limited number of years; and a charter of monopoly cannot now be granted without an act of parliament. The same law has been held to apply to Scotland.—(*Bell's Com.* vol. i. p. 108.)

MONSOONS, important modifications of the trade-winds which occur in the Indian Ocean, the nature of which is not yet fully understood.

In the Arabian and Indian Seas, on the north side of the equator, the monsoon blows north-east from November to March, and south-west from April to October; the former producing in India dry and agreeable weather, the latter rain and tempest. The change takes place gradually. In the Chinese and Sooloo Seas, however, the wind is generally N.N.W. from November to March, and S.S.E. from April to October. [*INDIA. TRADE-WIND.*]

MONT DE PIÉTÉ, a benevolent association for lending money on pledges at a moderate interest; and differing from ordinary pawnbroking establishments in being founded rather for the benefit of the borrower than that of the lender. Such institutions are said to have existed in Rome in the reigns of Augustus and Tiberius. They were revived in modern Italy in the 15th century, where they received every encouragement from the popes; and they exist at present in all the large towns in that country, the principal being the "Sagro Monte de Pietà di Roma," founded in 1539, and which in 1839 advanced no less than £211,554 on 306,161 pawns, the average amount of each being 14s. 2½d. The establishment likewise acts as a petty bank in receiving deposits. Monts de Piété are also instituted in many other parts of the Continent, particularly France. The "Mont de Piété de Paris" charges interest at 9 per cent., and one-half per cent. to the valuers at the time of releasing: the amount advanced by it in 1840 was £743,040 on 1,220,693 pawns, besides £230,553 on renewed articles. The loan is made for a fixed term, at the expiration of which, if the principal and interest are not repaid, the pledges are sold, and the surplus, after paying the debt, is restored to the owner: in most instances, however, the term may be renewed on payment of the interest. The profits are in some cases added to the capital, in others appropriated to charitable purposes. Such institutions are common in several parts of Ireland, but they are almost unknown in Britain, where their place is supplied by pawnbrokers. [*BANKS FOR SAVINGS. LOAN SOCIETIES. PAWNBROKER.*]

MONTEVIDEO. [*URUGUAY, REPUBLIC OF.*]

MORGEN, a German land measure varying in different places.

MOROCCO, the most important of the Barbary States, is bounded W. by the Atlantic; N. by the Mediterranean; E. by Algiers; and S. by the Sahara or Great Desert. Area, 274,000 sq. miles. Population, 8,500,000, mostly Arab Moors and Berbers. The chief cities are, Morocco the capital, Fez, and Mequinez, all inland. Government is a barbarous despotism.

The western part of the chain of the Atlas runs parallel to the coasts, changing its direction with the coast from the Atlantic to the Mediterranean, and leaving an intermediate plain, the greater part of which is finely watered, and unsurpassed in natural fertility. But though the inhabitants have been greatly beyond the rude and roaming habits for which they were anciently distinguished, they pay little attention to the improvement of the land, which indeed might be made one vast garden. Beyond the Atlas, however, there is a more arid region, named Taflet, unfit for grain, but yielding fine dates, and rearing a breed of goats, whose skins afford the fine morocco leather. The climate is not so hot as might be expected from the latitude, and wheat and barley are extensively raised; sheep are numerous, and produce fine wool, which is manufactured into a coarse cloth forming the chief dress of the inhabitants. An active inland trade is carried on with Soudan, and Arabia by caravans, and with other countries by sea.

Maritime commerce has increased considerably of late years. The imports consist chiefly of cotton, woollen, and silk manufactures and yarn, with raw silk, sugar, spices, dye-stuffs, metals, tea, and earthenware; the exports of fruit, wool, olive-oil, wax, hides, corn, live-stock, silk, and leeches. In 1839, the regular importations by sea amounted to £580,880, including £94,400 in specie; and the exportations to £480,360, including £94,400 in specie. But there is an extensive contraband trade, which it is estimated will swell these values one-fourth. Three-fourths of the trade is with the British: in 1839, the imports from England amounted to £460,960, and the exports to £356,560. A considerable part of our commerce is carried on through Gibraltar and Malta. Almost the only other states which participate in the maritime trade of Morocco, are France, the United States, Spain, and Portugal.

Maritime intercourse is conducted on the Atlantic side at Mogadore, the port of the capital, Mazagan, Rabat the port of Fez, and Larache; and on the Mediterranean side at Tan-Tetuan. In 1839, the entries inwards from foreign countries at all ports amounted to 20,003 tons; whereof British, 253 ships, 13,664 tons.

Mogadore, the canna, cloth measure, = 21 Imp. inches. The rottolo or commercial pound troy grains, and the quintal of 100 commercial lbs. = 119 lbs. avoird.: the market pound is heavier, and by which also iron and bees' wax are sold, is 50 per cent. heavier. The measure of capacity, though nominally those of Spain, are variable and uncertain.

Money of account is the mitkul of 10 ounces, 40 blankeels, or 960 flues. As 54 blankeels are equal to the Spanish hard dollar, the mitkul is worth 3s. 1d. The currency is composed chiefly of dollars, doubloons, and madrids: the madrid, which is a gold coin minted at Seville for the Emperor of Morocco, is valued at 10 dollars.

OPHIA, a vegetable alkaloid, procured by a chemical process from opium, the narcotic principle of that substance. When obtained from its alcoholic solution it is in small, brilliant, and colourless crystals, of a very bitter taste. The quantity obtained averages about 1 oz. from the lb. of opium; but it is very variable. The Turkey opium produces the most, and the East Indian and Egyptian the least. [OPHIA.]

3AIC GOLD, a bisulphuret of tin, formed by heating the peroxide with its sulphur. It is produced in small, soft, shining flakes, of a golden yellow colour. It is chiefly imported from Germany, and under the name of *bronze powder* is used for ornamental work, particularly paper-hangings.

PEARL-SHELL, the shell of the pearl-oyster. It is composed of alternating layers of coagulated albumen and carbonate of lime. On the inside it is finely polished, and of the whiteness of the pearl; and on the outside the same after the external laminae have been taken off. It is imported from Europe from India and China, and is extensively used for inlaid works, toys, and snuff-boxes.

MUSLIN DE LA LAINE (in *Fr.* muslin of wool), a fine, thin, woollen fabric manufactured in France, and much used for the dress of ladies. An inferior fabric bearing the same name, and of similar appearance, though composed of wool with cotton, is now also extensively made in Britain.

ZAMBIQUE, a territory claimed by the Portuguese, on the E. coast of Africa, extending nominally from the Bay of Delagoa to Cape Delgado, and divided into seven captaincies; but their real possessions in this country are now very insecure, and confined chiefly to the town of Mozambique, and the settlements of Quillimane, Senna, Tette, and Manica, on the Zambezi river. Melinda, a flourishing settlement on the adjoining coast of Zanguebar, is deserted.

Mozambique, the capital, and commercial emporium of the Portuguese possessions on the E. coast of Africa, is situated on a small island closely adjoining the continent, in lat. 15° 3' S., long. 38° 30' E.; pop. nearly 10,000, of whom only a few hundreds are Europeans. It possesses a good and commodious pier; but in other respects it is situated unfavourably, being about 300 miles distant from the mouth of the Zambezi, the channel of intercourse with the interior. It is healthy. The chief articles to be obtained at these settlements are gold, ivory, ambergris, sea root, tortoise-shell, and cowries. The export of slaves to Brazil was formerly considerable, and is believed to be still carried on to some extent. Provisions and refreshments are dear.

Of late much of the trade has been removed to Quillimane, at the mouth of the Zambesi, in lat. $17^{\circ} 58' S.$, long. $36^{\circ} 59' E.$; pop. 3000. Weights.—The bahar weight is 20 frazils = 240 lbs. avoird. The currency is chiefly Spanish dollars and Portuguese coins.

MUDDE, a Dutch and Belgian measure = $2\frac{1}{2}$ Imp. bushels, or 1 hectolitre.

MULE, a quadruped springing from the union of the male ass with the mare, or of the horse with the female ass,—the former being the best. The mule is commonly found to be vicious, stubborn, and obstinate, to a proverb; but it is hardy, and valuable for its sureness of foot. It is also useful on account of the great load which it can carry. Hence its common use in some parts of Spain, in Mexico, South America, and in other mountainous countries without good roads. The Persian mules, according to Mr Fraser, are of prodigious strength, usually carrying loads of about 3 cwt., with which they travel day after day along the execrable paths and over the rough *cothuls* of the country (still preserving their condition), at the rate of from 25 to 50 miles a-day, according to the distance of the resting-places. The mule is longer-lived than either the horse or the ass; but it is seldom used in this country.

MULLET, a fish (*Mugil*), greatly prized by the epicures of ancient Rome, and the roe of which is at present largely made into *Botarga*, on the shores of the Mediterranean. The mullet is gregarious in its habits, about 12 or 14 inches in length, and of a peculiar form and brilliant appearance. One species, the red mullet, is taken on the S. coast of England, particularly in May and June. It is caught by the mackerel-nets, and in larger quantities by the trawl-net.

MUM, a fermented liquor, brewed principally from the malt of wheat.

MUNJEET, an inferior kind of madder-root imported from Calcutta. The roots are long and slender, with a smell somewhat resembling liquorice-root; when broken they appear of a fine red colour, having a yellowish pith inside. Nearly 30,000 bales are on the average imported annually, each weighing 20 lbs.

MURIATIC ACID, or **SPIRIT OF SALT**, an aqueous solution of muriatic acid gas, now called hydrochloric acid gas. It is commonly procured by distilling a mixture of diluted sulphuric acid and common salt, equal weights being taken of salt, acid, and water. This acid is generally of a yellow hue, a very pungent smell, intensely sour taste, and emits fumes when exposed to air. Sp. gr. 1.170. The yellow hue is produced, according to Dr Thomson, from a trace of bromine; besides which, the acid of commerce is almost always contaminated with iron and sulphuric acid, and sometimes nitric acid. When pure it is colourless. Muriatic acid is used in medicine, and in some of the arts as a solvent of metals.

MUSCAT, a fortified seaport town on the E. coast of Arabia, and chief commercial emporium of the Persian Gulf, lies in lat. $23^{\circ} 38' N.$, long. $58^{\circ} 41' E.$ Population, including Muttrah, 60,000, composed of Arabs, Banyans, and a few Persian merchants. It is the capital of a sultan, whose patrimonial dominion is the surrounding territory of Oman, but who claims the whole coast from Cape Aden to Cape Ras al Had, thence northwards as far as Bussorah, including the islands of Bahrein, with all the African shore and adjacent islands from Cape Delgado to Cape Guardafui. He rents, besides, sulphur mines and several estates in Persia.

The harbour of Muscat is formed by a small island, consisting of a huge mass of granite, 300 feet high, situate so near the mainland as only to allow the free passage of small vessels. The town is one of the hottest places in the world, Fahrenheit, though about 50° in January and February, rising between 90° and 115° in July and August. The trade is considerable. Besides an extensive intercourse with the interior by means of caravans, Muscat is frequented by vessels from the shores of the Persian Gulf, the Red Sea, and from the east coast of Africa; and the produce of all the countries adjoining these places is generally found in the market. Trade is also carried on with Mauritius, India, China, and the Eastern Islands. The chief exports are dates, horns, raisins, wheat, salted and dried fish, sharks' fins, pearls, and drugs. The imports are rice, cotton, and woollen goods, iron, lead, sugar, and some spices; and the value annually imported is estimated at £(900,000).

The maund of 24 cucas = 8 lbs. 12 oz. avoird. The integer of account is the mahomodee of 90 gazecs. The mahomodee is a silver coin, of which 11 are reckoned equal to a Spanish dollar. The gazec is of copper; as is also the shaka, valued at from 72 to 80 per dollar. Foreign coins circulate, but are generally transferred by weight.

A convention with Britain, dated May 31, 1839, and ratified July 22, 1840, contains, among other provisions, a stipulation that no duty exceeding 5 per cent. shall be levied at the place of entry in the sultan's dominions on British merchandise imported in British vessels, which shall be in full of all import, export, tonnage, and license duties, and of any other government impost upon the vessel, or upon the goods; nor shall any charge be made on account of goods remaining on board unsold, nor on vessels entering to refit or for refreshments. A similar treaty was effected by the Americans on September 21, 1833.

The present sultan is distinguished for energy and intelligence; and the protection he affords to property is so efficient that the Banyans have formed a marine insurance society, of which the Arab traders generally avail themselves. He possesses a considerable navy, and his subjects are excellent seamen.

MUSCLE, a shell-fish (*Mytilus edulis*), abundant on our seashores, and largely used as food, though opinions differ as to its wholesomeness. The finest are the "Hambleton Hookers" of Lancashire; they are taken out of the sea, and fattened in the river Wyre, within reach of the tide.

MUSHROOM, a tribe of fungus plants (*Agaricus*), some species of which are used for pickling, catsup, powder, and for dressing fresh. Their season in England is September; and the most delicate are those found on old close-cropt pastures, or open downs by the seashore. Many kinds are poisonous, and it is only by experience that the eatable varieties can be distinguished. That usually cultivated is the *A. campestris*. The properties of mushrooms are better understood on the Continent than in England; more particularly in Russia, where they constitute an important article of food.

MUSICAL INSTRUMENTS may be arranged into three classes, namely, wind instruments, stringed instruments, and those in which the sound is produced by concussion. Their manufacture and sale affords employment to a considerable number of persons in this country, more especially in London, and, though to a smaller extent, in Edinburgh and Dublin. But the peculiar nature of the trade places it in a great degree beyond the scope of the present work; some particulars, however, deserving of notice, were furnished to the parliamentary committee on import duties. It appears that British pianos excel all others; and that though in Germany, in consequence of more diffused musical habits, they are currently made for £10 or £12, our manufacturers do not dread the abolition of tariff protection, owing to the superior tone and durability of their instruments; the best harps and flutes are also made in England; but the finest brass wind-instruments are imported. The timber employed for the sound boards of good stringed instruments is said to be "Swiss deal;" for those of an inferior kind, American pine is used.

With respect to the violin, the "sovereign of the orchestra," it has been remarked, that "the best can now be said to be made nowhere." This instrument, however, improves by age, and many of the old ones are of great value. The best in the world are those of the Amati family of Cremona, who flourished in the 16th century. The chief other makers are Stradivarius, the elder and the younger, and Guarnerius, also of Cremona, in the 17th century; and Stainer, a native of the Tyrol. A good-toned violin cannot be bought in England or France for less than £50, and many have been sold for £250. An instrument made by Stradivarius can always be sold for £100.

Musical instruments, mostly pianos, are exported in considerable quantities, principally to the colonies, India, and S. America. The importations, embracing a variety of instruments, amount annually to about £12,000.

MUSK (Fr. *Musc.* Ger. *Bisam.* It. *Muschio.* Rus. *Kabarga*), a fragrant substance secreted in a glandular pouch under the belly of the male of the musk-deer (*Moschus Moschiferus*), which inhabits the elevated regions of Asia. Musk in its recent state has the consistence of an electuary of a reddish-brown colour; but by keeping it becomes dry and crumbly. The best comes from China in small round bags, covered with brownish hairs, and containing at the most 1½ drachm, large-grained, and of a deep brown colour, and a strong ammoniacal smell. The Siberian or Russian musk is greatly inferior. It is small-grained, light brown, of a weaker and more fetid smell, with little ammoniacal odour; the bags longer and larger. Musk from its high price is often adulterated, more especially when purchased in grains, and not in the natural bags of the animal. It is an article of the *materia medica*, and is extensively used as a perfume. It should be preserved in closely stopped glass bottles, in a place neither very dry nor too damp.

MUSQUASH, largely used as a "hatting-fur," is the skin of the musk-rat, a diminutive species of beaver. [FUR.]

MUSLIN, a fine thin cotton fabric, extensively manufactured in Glasgow and Manchester. It is used for handkerchiefs, ladies' caps, gowns, frills, and other purposes; and there is a great variety of kinds and qualities,—as book-muslin (a starched or dressed kind), cambric-muslin, jaconet, mull, and others. Dacca, in Bengal, was formerly celebrated for its muslins, some rare specimens of which have been poetically described as "webs of woven wind." [COTTON MANUFACTURE.]

MUSTARD (Du. *Mostert.* Fr. *Moutarde.* Ger. *Mustert*), a plant (*Sinapis*) cultivated in Britain chiefly for its seeds. These when bruised form a bright yellow powder, of a pungent smell and acrid taste, called flour of mustard, which is used as a condiment, and for various purposes in medicine. There are two kinds, a black (*S. nigra*), and a white (*S. Alba*); the first was formerly preferred, being more pungent, and of a much finer quality; but as the flour made from it

retains a darkness of colour, from which that of the white variety is free, and as, besides, less labour is required in the manufacture of the latter, it is now more generally employed in Britain, either alone or in mixture with the other. The manufacture of mustard was first understood and practised in Durham, but it is now common in other parts of England.

MYROBALANS, a name given to several species of dried fruits of the plum kind, employed in dyeing and medicine by the natives of India. Five species are described by Mr Milburn in his *Oriental Commerce*. They are not used in this country.

MYRRH (Arab. *Murr*. Fr. *Myrrhe*. It. & Sp. *Mirra*. Ger. *Myrrhen*), a gum resin, celebrated from the earliest ages for its aromatic and fragrant properties, is the product of a small tree (*Balsamodendron myrrha*) found in Nubia and Arabia Felix. Several kinds are distinguished. The best, myrrh in tears, is when good of a yellow or reddish-yellow colour, light, brittle, pellucid, and sometimes shining; fracture vitreous or conchoidal, of a bitter aromatic taste and peculiar smell. Sp. gr. 1.36. It is mostly imported from the Levant. The East India is in large opaque pieces, generally covered with a brownish-white powder. Myrrh in sorts is the name given to a variety of inferior and adulterated kinds. This gum-resin is at present used as a stimulating medicine, and as an ingredient in tooth-powders.

N.

NAILS (Fr. *Clous*. Ger. *Nägel*, *Spiker*. It. *Chiodi*. Por. *Pregos*. Rus. *Giuosdi*. Sp. *Clavos*) are made in most towns of the United Kingdom, but chiefly at Dudley, Stourbridge, Walsall, and other places near Birmingham, where about 25,000 persons are employed in this manufacture. The best are made by the hand at the common forge, but vast numbers are now produced by machinery. In Birmingham, well-formed nails are cut out of sheet-iron with the greatest rapidity; neatly-shaped heads are given to them by powerful pressure; while in the process of annealing a tenacity is communicated to them which almost rivals the productions of the forge. About 5500 tons are annually exported.

NANKIN, a Chinese cotton cloth, which, in point of strength, durability, and essential cheapness, is unrivalled by any of the cotton fabrics of Europe. The best is the produce of Kiang-nan or Nan-kin; and an inferior description is manufactured in Quang-tung. It is either white, blue, or brownish-yellow; the last being the result of dye, and not the natural colour as vulgarly supposed. Nankin is now little used in England; but the consumption in warm countries is still considerable. The quantity got up at Canton for the foreign market is very variable. Under the British flag alone, in 1831, there were exported 925,200 pieces, valued at £107,323. In later years, the quantity has been much smaller; in 1834, it had fallen to 65,900 pieces. Imitation nankins are made in this country, but they are inferior to those of China.

NAPHTHA, a peculiar liquid hydrocarbon or species of bitumen, which is both a natural and artificial product. Natural naphtha is found at Baku on the Caspian, at Hit on the Euphrates, and other places in Mesopotamia; in Italy, near Piacenza, and of an inferior quality near Modena; and a similar liquid is obtained by the distillation of petroleum and caoutchouc. *Coal naphtha* or *coal oil*, the kind chiefly used in this country, closely resembles the former, and is one of the results of the distillation of pit-coal in gas-works, from which it is usually obtained. Naphtha is of a yellowish-white colour, transparent, and fluid as water, inflammable, and very volatile. The purest Persian and Italian variety has a strong bituminous but not disagreeable odour; Sp. gr. .760. The coal naphtha has a penetrating and unpleasant odour; Sp. gr. .840. It dissolves the greater number of the essential oils, and the resins; and is extensively used for dissolving caoutchouc to render cloth waterproof, and for forming surgical instruments. It is also burnt instead of alcohol in lamps for heating small vessels. In Genoa naphtha is used in the street-lamps.

NAPLES, KINGDOM OF, forming with the island of SICILY, described separately, the "Kingdom of the Two Sicilies," occupies the southern extremity of Italy, being bounded N.W. by the Papal States, and on every other side by the sea. Area 31,600 sq. miles. Population in 1838, 6,021,284. It contains 15 provinces, which are divided into 53 districts, and subdivided into 1790 communes. The government is a hereditary monarchy, with few restrictions.

territory of Naples, after forming for some space a continuation of the long narrow peninsula of Italy, branches finally into the two smaller peninsulas of Otranto and Calabria. The lines fill its interior, shooting out arms to its bounding promontories; in many places being wider, and assuming still more rugged and awful forms than in the northern part of the same. They leave, however, along the coast wide plains and extended valleys, blessed with best soil, and (except in some marshy tracts on the coast) with the most genial climate of any country in Europe. The rivers are numerous, but inconsiderable in point of size; and from their entrance are impassable except for very small craft.

Improvement was given to the kingdom during the French occupation, more especially by the suppression of the feudal system by Joseph Bonaparte in 1806; still comparatively little has been done to develop the great natural resources of the kingdom. In many places property is rendered insecure by banditti, and the great bulk of the people are sunk in a state of brutish indolence. Salt, coal, and other minerals abound, but scarcely any attempt has been made to work them. Agriculture is in the most rude condition; roads are neglected; and corn (mostly wheat, maize, &c.), wine, oil, silk, flax, hemp, cotton, and fruit, the staples of the soil, might be raised in quantities equal to four or five times the consumption of the inhabitants. A miserable cotton monopoly, a sort of government monopoly established at Salerno, the iron forge and mine at the glove and hat manufactories at Naples, with coarsely made linens and cloths, are stated by Macgregor to comprise nearly all the branches of manufacturing industry.

The low state of productive labour, joined to oppressive duties and impolitic prohibitions, limits the external trade within comparatively narrow limits. The imports consist principally of raw wools, woollens, linens, hardware, and other manufactures; cod-fish and pilchards; colonial produce, dye-stuffs, and metals, especially iron. The exports embrace olive-oil, silk, flax and wool, wine, corn, linseed, rags, macaroni, cream of tartar, skins, liquorice, &c. Mr Macgregor, in his Commercial Report (p. 63), states the amount of the former, in 1837, at £2,311,937, the latter at £1,701,949. The chief commercial relations are with France, Britain, Austria, and the Sardinian states.

Naples, the chief port, capital, and emporium of the foreign trade, is beautifully situated on a bay of the same name, in the vicinity of Mount Vesuvius, in lat. 40° 50' N., long. 14° 16' E. Population. The harbour is formed by a projecting mole, nearly in the form of the letter L, within the water is from 3 to 4 fathoms deep, but only small vessels can approach the town. The bay is deep, and there is no bar, but it is a good deal exposed to S.W. winds. According to Mr Macgregor (*Report*, &c. 1840), the principal exports in 1838 were 5,074,559 gallons olive-oil; 2438 tons wine; 595,657 lbs. cream of tartar; 286,111 lbs. silk; 362 tons argols; 966 tons bones; 10,790 tons hoops; 744 tons figs; 1780 tons wheat; 1443 tons linseed; 1090 tons hemp; 348,164 pairs of shoes; 678 tons liquorice paste; and 628 tons madder root. In the same year there cleared out 10,000 tons of goods: whereof Neapolitan, 1051; British, 80; French, 22; and Sardinian, 43. The duties amount annually to about £580,000.

The only other harbour on the Mediterranean coast is that of Gaeta; on the eastern coasts are those of Bari, Taranto, and Brindisi; Gallipoli, the great oil mart, has merely a roadstead.

MEASURES, WEIGHTS, MONEY, BANKS, &c.

Measures and Weights.—The canna or ell of 1 or 96 inches = 83.05 Imp. inches; the $7\frac{1}{2}$ palmi. The Neapolitan mile of 7000 = 2018 Imp. yards.

Moggio, land measure, of 900 square passi = 15 Imp. acre.

Baril, wine or brandy measure, of 60 canna = 9.60 Imp. gallons; the carro is 2 botte, or 12; and the pipe is 14 barilli: the salma, measure, of 16 staja, or 256 quarti = 34.91 Imp. gallons, and weighs about 394½ lbs. avoird. Gallipoli, the oil salma of 10 staja or 320 quarti = 34.11 Imp. gallons. At Bari, the salma = 35.42 Imp. gallons.

Tomolo, corn measure, of 2 mezzetti or 4 = 1.519 Imp. bushel, or 100 tomoli = 19 Imp. quarters nearly; the carro of 36 tomoli = 36 Imp. quarters.

Cantaro grosso of 100 rottoli = 196.45 lbs. avoirdupois; the cantaro piccola of 150 pounds = 132 oz. = 106.07 lbs. avoirdupois. Gold and silver are weighed by the libbra or pound of 12 onces, 360 trapezi, or 7200 acini = 4960 troy grains; their fineness is expressed decimally.

Money.—The integer of account is the ducat, sometimes termed *del Regno*, which is divided into 10 grani, each of 10 cavalli; also into 5 tari or 20 carlini. The ducat being equal to 3s. 3½d., 1 is worth about 8d., the carlin 4d., and the tarlo 2-6ths of a penny.

Coins, according to the system introduced in 1806, are as follow:—In gold; the onetta of 100 (weight 86 acini, fineness 996 milliemes) = 3½d. sterling, with pieces for 10, 5, and 2; in proportion:—In silver; the ducat of 100 (weight 515 acini, fineness 833½ milliemes) = 3s. 3½d., with pieces for 12, 6, 5, and 1 carlini of proportional value:—In

copper; pieces for 5, 3, 2, 1, and ½ grani. There are, besides, a variety of old coins.

The par of exchange with London, deduced from the ducat in silver, which is the standard, is 6 ducats 3½ grani, or, as commonly expressed, 603½ grani per £1.

Usage of bills from Britain, Portugal, and Russia, 3 months' date; from France, Spain, Holland, and Germany, 2 months' date; from Leghorn, Rome, Genoa, and Sicily, 22 days' sight. Inland bills are drawn at 15 days' sight.

Banks, &c.—The Bank of the Two Sicilies is a government deposit bank, the orders or checks on which, being paid in cash on demand, circulate extensively in Naples, on the same footing as specie. There is also a government discount office; and most of the principal merchants engage more or less in banking operations.

Finances.—The annual revenue (including a quota of nearly £500,000 from Sicily), amounts to about £4,350,000, derived partly from direct and partly from indirect taxes, the most important of the former being a land-tax of 25 per cent. The principal other sources are customs, tolls, a salt monopoly, lotteries, and registrations. The whole national debt is estimated at £20,000,000.

Of the Neapolitan debt, £2,500,000 were raised in England in 1824, on 5 per cent. bonds of £100 each, which were issued at 92½ per cent.: the dividend coupons are payable February 1, and Aug. 1, without deduction, at Messrs Rothschild. The other securities are in bonds of 500 ducats each, bearing 5 per cent. interest; transactions in which, in the London market, take place at the fixed double exchange of fr. 4. 40 c. per ducat, and fr. 25. 65 c. per £1.

The Duties on admitted articles are oppressive,

ranging from 50 to 150 per cent. *ad valorem*, and fact, in point of commercial legislation, Naples a great variety of foreign commodities are prohibited. The export duties are also very high; among states having any pretension to civilization and the bonding of goods is not permitted. In

NATIONAL DEBT. [FUNDS.]

NATRON, a native sesquicarbonate of soda, found in Egypt, Mexico, &c.

NAVIGATION LAWS, a name commonly applied to those statutes which have for their object the securing of the carrying trade of the country to British-built ships, owned and navigated by British subjects. Some traces of this legislation are to be found in acts passed by Richard II. in 1381 and 1390; though in general the ancient policy of England seems to have afforded no protection to the shipping by means of exclusive privileges. Bacon, in his *Life of Henry VII.*, remarks, that "almost all the ancient statutes incite by all means to bring in all sorts of commodities, having for end cheapness, and not looking to the point of state concerning the naval power." That monarch, however, from his "care to make his realm potent at sea as well as by land," passed an act in 1485 prohibiting the importation of Gascon wine, except by English vessels; but it did not go the length of excluding foreign shipping in all circumstances: the "stranger's ship" was only to be rejected if the merchant "might have sufficient freight in the same port in a denizen's ship." Yet from this time we may date the commencement of that policy which was matured in an act passed by the Long Parliament in 1651, a famous statute, which, as afterwards confirmed (in 1660) by 12 Ch. II. c. 18, is known by the name of the *Navigation Act*. It provided generally that no merchandise, either of Asia, Africa, or America, should be imported into England in any but English-built ships, navigated by an English commander, and manned, to the extent of three-fourths of the crew, by Englishmen; and that certain enumerated articles of European merchandise (embracing, it may be remarked, all the bulky and most important productions of the Continent), as well as all Russian and Turkish goods, should not be imported in foreign ships, except such as should be brought directly from the country or place of its growth or manufacture in ships belonging to such country or place. Besides these exclusive privileges granted to English shipping, the end aimed at was further attempted to be secured by the imposition of discriminating duties, so that goods which might still be imported in foreign ships from Europe, were in that case more highly taxed than if imported in our own vessels.

The Navigation Act was mainly levelled at the Dutch, who, by superior economy and skill, had succeeded in engrossing nearly the whole of the carrying trade of Europe; and there can be little doubt that it dealt a heavy blow at their maritime prosperity; though it does not follow that it benefited the English to the same extent to which it injured their rivals. With the present amount of our knowledge, it would be difficult to arrive at the conclusion that the trade of the country could possibly be promoted by compelling our merchants to employ dear instead of cheap ships. Nevertheless, the system above described was long looked upon as a monument of wisdom and prudence; and the stimulus which it imparted to maritime enterprise is alleged by its admirers to have had the effect of placing the naval power of the country on a far broader and firmer basis than it ever could otherwise have attained. The first deviation from the system sanctioned by parliament was effected by a treaty concluded by Mr Vansittart (now Lord Bexley), in 1815, with the United States of America, which, soon after the establishment of their independence, had followed our example, by enacting a navigation law copied from that of the mother-country; "and it affords," remarks Mr Porter, "an instructive lesson that the practical carrying out of this restrictive system to its fullest extent by the two nations, was found to be so unproductive of all good effect, as to call for its abandonment. By this treaty, the ships of the two countries were placed reciprocally upon the same footing in the ports of England and the United States, and all discriminating duties chargeable upon the goods which they conveyed were mutually repealed. It adds greatly to the value of this concession, that it was made by no disciple of free-trade doctrines, but was forced, by the very consequences of the system itself, from a government strenuously opposed to all change in the direction of relaxation."—(*Progress of the Nation*, § 3, c. 9.)

In a few years afterwards, the progress both of opinions and of events forced on further modifications of the exclusive system. In 1822, Mr (now Lord) Wallace, then President of the Board of Trade, introduced five bills (3 Geo. IV. c. 41, 42, 43, 44, and 46), which mitigated to a large extent many of the provisions of the law; and in the following year circumstances arose which compelled a still further relaxation. From various causes, foreign countries had up to this time, in

wards amounts annually to nearly 6000 vessels, having a burden of 800,000 tons; of which, about 330,000 tons were under the national flag; British, 200,000 tons; and Norwegian, 100,000 tons. In 1837, there belonged to Holland 1394 ships, of the burden of 111,824 lasts; which was exclusive of 5640 trek-schuyts, or canal barges, and 15,000 boats employed in the inland trade. The number of vessels trading to the E. Indies from the different ports is 320, in burden 185,000 tons.

The chief commercial relations are with Java and the other colonies, Britain, Germany, the Baltic states, France, and America. The trade with England appears to be on the increase. In 1833, 1837, and 1840, the declared value of the produce and manufactures of the United Kingdom shipped to Holland, was respectively, £2,181,833, £3,040,029, and £3,416,190: about one-half of the whole consists of cotton yarn and twist; the chief other articles are cotton cloths, woollens, iron, linen and woollen yarn, brass and copper wares, coal, painters' colours, and salt. A variety of colonial and foreign commodities are likewise imported from Britain; the principal being cotton-wool, coffee, indigo, tobacco, shellac and lac, copper, tea, Peruvian bark, pepper, pimento, and wine. The exports to the United Kingdom in 1840 consisted of 157,802 cwts. butter, 224,467 cwts. cheese, 113,108 cwts. flax and codilla, 47,575 cwts. madder, 676,404 gallons geneva, 72,842 gallons Rhenish wine, and 171,733 cwts. bark; besides corn, seeds, raw silk, coffee, smalts, nutmegs, and mace from the Moluccas, linseed and rapeseed cakes and oil, fitch, furs, &c.

Corn forms an item of considerable importance in the commerce of Holland, partly from the inadequacy of her own supply, and partly from the convenient situation of Rotterdam, the chief seat of this trade, as an entrepôt for the produce of Rhenish Germany. This port is also, to some extent, a depôt for Baltic corn; while, in certain seasons, her shipments of Netherlands produce are considerable,—Zenland wheat, and Dutch oats, beans, and pease, being in high estimation in Britain. But exports of Netherlands corn have always to be replaced by additional imports. The bonding system, as applied to foreign grain in Holland, is extremely liberal and convenient to the holder. Of late, however, restrictions have been imposed upon importation for consumption, with the view of protecting the agriculturists. From 1820 to 1830, a small fixed duty existed, which, on wheat, was (fl. 7.50 c. per last), equivalent to 1s. 2½d. per quarter: from 1830 to 1835, this was raised to 4s. 9d. per quarter, being quadrupled. In 1836, a sliding duty was introduced, according to the following scale:—When the average price of wheat is lower than 23s. 9d., the duty is 14s. 3d. per quarter; when price 23s. 9d. and under 26s. 2d., the duty is 11s. 10½d. per quarter; when price 26s. 2d. and under 28s. 7d., the duty is 9s. 6d.; price 28s. 7d. and under 31s. 4d., duty 7s. 1½d.; price 31s. 4d. and under 38s. 1d., duty 4s. 9d.; price 38s. 1d. and under 42s. 10d., duty 2s. 4½d.; and when the price is 42s. 10d., or above, the duty is 1s. 2½d. Exportation is free till the price reach 42s. 10d., when a duty of 2s. 10d. is levied. The transit duty on wheat is in all cases 5½d. per quarter. Besides the preceding import duties, there are heavy town dues, as well as a tax upon grinding; so that upon the whole the consumption of corn is rather heavily burdened.

PORTS.—*Amsterdam*, the capital of the kingdom, sometimes called the “Venice of the North,” is situated in lat. 52° 22' N., long. 4° 53' E., at the confluence of the Amstel with the Y, an arm of the Zuyder Zee. It is built on a marsh upon piles. The principal streets are magnificent, and the city, which is crescent-shaped, is intersected by numerous canals, communicating by 280 bridges, and ornamented with trees. Pop. 220,000. The harbour is capacious and secure, admitting the largest vessels close to the quays and warehouses. At the mouth of the Y there is a bar called the Pampus, to cross which large vessels must be lightened; but this inconvenience, as well as the delays and dangers attending the navigation of the Zuyder Zee, has been, since 1825, obviated by a ship-canal, 5¼ miles in length, and 20½ feet in depth, which was then opened between Amsterdam and the Helder,—a noble work which gives to the former all the advantages of a deep-water harbour on the most accessible part of the coast. Amsterdam possesses numerous manufactures, but it is more distinguished for its trade, which, though now much reduced, is still very considerable. The exports, estimated at about £4,000,000 a-year, and the imports, nearly of the same amount, comprehend almost all articles forming the subject of European commerce.

Rotterdam is situated on the Maese, a principal arm of the Rhine, in lat. 51° 55' N., long. 4° 29' E., about 20 miles from the North Sea. Pop. 78,000. The streets are intersected by canals, deep enough to receive the largest ships, and the town possesses in other respects, as already noticed, great facilities for trade. It has an extensive transit-trade with Germany, and is the chief seat of the commerce with Britain, with many parts of which it maintains an active intercourse by steamers and packets. It will shortly be connected with Amsterdam by railway. In the year 1840, the number of vessels that entered was 1903, and departed, 2054; the latter, in burden, 265,000 tons. In the same year, the total imports amounted to £7,186,240, including £3,180,480 from Britain; and the total exports, £5,082,200, including £1,097,280 to Britain.

The chief other ports are Harlingen, at the mouth of the canal of Leeuwarden, in Friesland, Delizyl on the Ems, Dordrecht on the Waal, and Middleburg and Flushing, in Walcheren.

MEASURES, MONEY, FINANCE, &c.

Measures and Weights.—The modern system, introduced in 1820, is the same as that of France, but with the old Dutch nomenclature.

The elle or metre of 10 palms = 39½ Imp. inches nearly, and 100 elles = 1093¾ Imp. yards; the mijle or kilometre = 1093¾ Imp. yards.

The vierkante bunder, or are, of 10 vierkante roeden, or 100 vierkante elles = 102471 Imp. acres = 3 Imp. perches and 29 square yards nearly.

The vat, or hectolitre (liquid measure), of 100 kans or litres = 22409 Imp. gallons; the kan is divided into 10 maatjes, or 100 vingerhoeds.

The mudde, zak, or hectolitre (dry measure), of 10 schepels, or 100 kops or litres = 2½ Imp. bushels nearly; and 100 mudden = 34390 Imp. quarters.

The wigte or gramme of 10 korrels = 15434

troy grains; the pond or kilogramme of 10 ons, 100 loods, or 1000 wigtes = 2 lbs. 3 oz. and 4¾ drams avoirdupois; and 100 ponden = 22446 lbs. avoirdupois. The apothecaries' new pound of 12 ounces, 96 drachms, 288 scruples, or 5760 grains = 5787 troy grains.

Gold and silver are weighed by the pond, as above; and their fineness is expressed in millèmes as in FRANCE. Gold is valued from the fixed price of 1442 flor. 00 cents per pond, with an agio that is usually about 13 per cent; Silver is valued from the fine weight at a variable price per pond without agio.

The old measures and weights, still retained in many places, are chiefly as follows:—The Amsterdam foot = 1115 Imp. inches; the Rhineland foot = 1236 Imp. inches; the Amster-

dam ell = 27.06 Imp. inches; the Brabant or Flemish ell = 27.58 Imp. inches. The Dutch league, 19 to the degree, = 3 Imp. miles. 5 fur. 4 poles. 4.96 Amsterdam morgen of 600 square perches, or 4.75 Rhineland morgen, = 10 Imp. acres. The wine stekan of 8 stoops = 4.27 Imp. galls; the brandy stekan = 4.13 do.; and the beer stekan = 4.32 do.: The Amsterdam ahm of 4 ankers, 8 wine stekans, 64 stoops, 128 mingels, 256 pintes, or 512 mutjes = 34.16 Imp. gallons; the vette contains 3 stoops, the oxhoofd 24, the legger 240, and the vat 6 ahms or 384 stoops; the Rotterdam ahm = 33.32 Imp. gallons. The Amsterdam corn last of 27 mudden, 26 sacks, or 108 schepels = 82.62 Imp. bushels. The troy pound of 2 marks, 16 ounces, 320 engels, or 10240 aas = 7596 troy grains; 1 engel = $7\frac{1}{2}$ carats. The commercial pound of 16 ounces = 7625 troy grains; and the centner of 100 lbs. = 108.93 lbs. avoirdupois.

A last for freight is estimated at 4000 lbs., equal to 2 British tons nearly.

Money.—The monetary unit is the florin or guilder, divided into 100 cents, or 20 stivers, and equal 1s. 8d. sterling nearly; the par of exchange being in gold 12 fl. 10 c., and in silver, 11 fl. 97 c. per £1. Formerly accounts were stated in florins of 20 stivers, each of 16 pennings; and exchanges were transacted in pounds Flemish of 20 schillings, or 240 grotes. 6 florins = 1 pound Flemish. The rixdollar = $2\frac{1}{2}$ florins or 50 stivers.

The coins are:—In gold; the 10 florin piece (weight 103.65 troy grains, fineness 900 millimes or $\frac{9}{10}$), equal 10s. 6d., and the piece of 5 florins: In silver; the florin (weight 166.17 troy grains, fineness 803 millièmes) equal 20.05d.; pieces for 3 and $\frac{1}{2}$ florins; also, but of a lower standard, pieces for 25, 10, and 5 cents: In copper; cents and $\frac{1}{2}$ cents. The above form the currency of the Netherlands, according to ordinance of 1816; but a variety of old coins also circulate, the principal being the gold ducat, value 2s. 4d.; the silver ducatoon, 5s. 3d.; and the rixdollar, 4s. 2d. nearly.

Usance of bills from London and France, 1 month's date; from Spain, Portugal, and Italy, 2 months' date; from Germany, 14 days' sight; and from Dantzig, Riga, and Königsberg, 30 days' sight. Days of grace, formerly 6, but now in disuse.

The Bank of the Netherlands was founded in 1814 on the model of the Bank of England; the celebrated old deposit Bank of Amsterdam having ceased to exist on the French invasion in 1795. Its original capital of fl. 5,000,000 (divided into shares or actions of fl. 1000) was doubled in 1819. It issues notes, varying in amount from fl. 20 to fl. 1000, discounts bills, and occasionally makes advances on goods, deals in bullion, and coins money for the state.

The *Maatschappij*, formed in 1825, is a company which has been the means of directing much of the resources and energies of the country to the Eastern trade. The original shares were for fl. 1000 each; and the present capital fl. 97,000,000 (£8,083,333), of which fl. 20,000,000 stand in the name of the abdicated king. It commenced operations by lending fl. 8,000,000 to the colonial government, receiving the consignment of the produce sent to Europe, and exporting European wares to supply the Indian market; and in course of time their advances amounted to fl. 20,000,000. By an arrangement in 1840, the state became bound, 1st, to pay them fl. 5,000,000 annually for 9 years, by which the debt, with 5 per cent. interest, would be paid off; and, 2d, to consign all colonial produce raised or bought on government account to their care, for shipment and sale, allowing for this a commission of 4 per cent.: but both these rates of interest and commission have been since reduced.

The government officers deliver the wares to the factory of the company at Java, which contracts to convey them to Europe for a fixed sum. Only Netherlands or colonial shipping can be employed; and their sailing must be so arranged that $\frac{3}{4}$ fall to the share of Amsterdam, $\frac{1}{4}$ to Rotterdam, $\frac{1}{8}$ to Dordrecht, and $\frac{1}{8}$ to Middelburg. In 1840, the shipping freighted amounted to 138,000 tons.

The council of management consists of a president, nominated by the king, 12 commissaries, elected by the shareholders, and 3 paid directors.

The *Maatschappij* was not at first successful, but it is said to have become so since 1830.

A *Treaty of Commerce and Navigation* between the Netherlands and Britain, dated October 27, 1837, reciprocally places the subjects of the two powers, in respect to duties, on the footing "of the most favoured nation." It also, "in respect of voyages between the two countries," places their ships as to port-duties, drawbacks, &c., reciprocally on the footing of national vessels. This treaty, which is for the term of 10 years, and 12 months after notice, likewise contains various provisions as to the valuation and warehousing of merchandise, and in regard to wrecks.—See *Hertslet's Treaties*, vol. v. p. 338.

Provision for the intercourse between the subjects of the two powers in the East was made by a treaty, dated March 17, 1824.

Art. 1. Their Eastern subjects to be admitted to trade with their respective possessions upon the footing of the most favoured nation.

2. "The subjects and vessels of one nation shall not pay upon importation or exportation, at the ports of the other in the Eastern Seas, any duty at a rate beyond the double of that at which the subjects and vessels of the nation to which the port belongs are charged. The duties paid on exports or imports at a British port on the continent of India or in Ceylon, on Dutch bottoms, shall be arranged so as in no case to be charged at more than double the amount of the duties paid by British subjects and on British bottoms. In regard to any article upon which no duty is imposed, when imported or exported by the subjects, or on the vessels of the nation to which the port belongs, the duty charged upon the subjects or vessels of the other shall in no case exceed 6 per cent."

3. The parties engage that no treaty shall be made by either with any native power, which shall, by unequal duties or otherwise, tend to exclude the trade of the others. Intimation to be mutually made of treaties with native powers in the Eastern Seas.

4. The two powers engage to order their officers "to respect the freedom of trade established by art. 1, 2, and 3; and in no case to impede a free communication of the natives in the Eastern Archipelago with the ports of the two governments respectively, or of the subjects of the two governments with the ports belonging to native powers."

The Molucca Islands are excepted from art. 1, 2, 3, and 4, during the existence of the spice monopoly; and the treaty, besides, contains several provisions exclusively of a political nature, for which see *Hertslet*, vol. iii. p. 384.

This treaty is said to have been since violated by the Dutch colonial authorities; and various remonstrances on the subject have been made by our ambassador at the Hague; but they are of a nature too voluminous to be here noticed.

Finances.—The budget for the year 1842 estimates the receipts at fl. 71,353,551 (£5,946,129), and the expenditure at fl. 71,338,103, including fl. 33,481,341 on account of the public debt. But the brief abstract from which these figures are taken does not show whether the ways and means are confined to the produce of Netherlands

taxes, or include besides new loans or anticipated receipts from the colonies. The mode of preparing the Dutch budgets has of late years been the subject of complaint.

The capital of the debt consists of fl. 763,858,300 of old 2½ per cents, and of fl. 302,657,850 of new debt, bearing interest at 3½, 4, 4½, and 5 per cent.; making together, fl. 1,151,516,150. Deducting from which, fl. 200,000,000, the capital of the old debt corresponding to fl. 5,000,000, the interest stipulated to be annually paid by Belgium Treaty, April 19, 1839, art. 13), leaves the debt of Holland fl. 951,516,150 (£79,293,012); the present annual charge on which, including the sinking fund, is fl. 33,944,250. This is exclusive of fl. 236,000,000 (£19,666,666) contracted in 1836,

1837, and 1838, on the credit of the colonial revenues, the interest on which, at 4 and 5 per cent., is guaranteed by the state; also of the fl. 45,000,000, stated above as due to the Maatschappij.

A portion of the Dutch 2½ per cents is issued in certificates of fl. 1200, or £100 each, the dividends on which, due January 1 and July 1, are payable at Messrs Rothschild's, London, at the fixed rate of fl. 12 per £1. The dividends on a portion of the colonial 5 per cent. loan of 1837 are also payable in London, at Messrs Salomon's, at the same rate, the net amount of the half-yearly coupon on each fl. 1000 bond being fl. 2475, the value in sterling is £2, 1s. 3d.; these last are payable in Holland on 1st April and 1st October.

NETS, FISHING, are rarely a subject of commerce, being almost all manufactured by the fishermen and their families.

NEW BRUNSWICK, a province of British America, lies between lat. 45° and 48° 5' N., and long. 63° 48' and 67° 53' W.; and is bounded N. by Canada and Chaleur Bay; E. by Gulf of St Lawrence, Northumberland Strait, and the Isthmus of Chignecto, which separates it from Nova Scotia; S. by the Bay of Fundy; and W. by Maine and Canada. Area, 26,000 sq. miles. Population in 1834, 119,557, chiefly of British origin. The administration is vested in a lieutenant-governor (subordinate to the governor-general of British America), executive and legislative councils, and a house of assembly of 28 members.

The country, though mountainous towards the north, is mostly composed of bold undulations, sometimes swelling into hills, and again subdividing into vale and lowlands, covered with magnificent forests, and intersected by the river St John (the great feature of the province), and numerous other streams, which afford water-communications in every direction to the pleasing settlements scattered throughout the fertile alluvial spots termed *interfluvies*. The climate, similar to that of Canada, is highly salubrious; but agriculture, though recently improved, is in a very backward condition. The most important article of produce is the potato; the cereal grains are not raised in sufficient quantity for the consumption; and indeed the greater part of the country is still in a state of nature. Gypsum abounds; and mines of coal, iron, copper, and manganese are worked, but only to a trifling extent.

The commercial wealth of New Brunswick is as yet therefore limited to its forests, especially those of yellow pine; and under the influence of the discriminating duties in Britain in favour of colonial produce, the industry of the inhabitants is chiefly devoted to the timber trade. This trade is conducted by "lumberers," who penetrate the forests at the close of autumn, and during the winter cut down the trees, which are floated down the rivers by the "freshets," or melted snows, about the end of April. A considerable portion of the wood is formed into deal, batons, and shingles; for which purpose there were, on 1st January 1836, 320 saw-mills in the colony, valued at £420,000; but the greater portion is shipped in the log. The chief other branches of industry are the fisheries and shipbuilding. The vessels built are considered by many to be too slight: they are called slop or cabbage-stalk built, having their lower timbers of pine or spruce: their construction, however, costing little more than £6 a-ton, is carried on to a considerable extent, amounting, in 1839, to 164 vessels, with a tonnage of 45,954.

New Brunswick being, from its position, not adapted for a depot, its commerce consists mainly of the exchange of its own surplus produce for articles of consumption. In 1833, 1835, and 1837, the value of the exports (exclusive of new ships) was respectively £400,464, £577,211, and £368,307; the last including £476,670 for wood and lumber, £34,677 for train oil, and £20,550 for fish, chiefly dry cod; the whole mostly shipped to Britain and the West Indies. The amount of imports in the same three years was respectively £549,215, £621,500, and £730,563; the last including £150,828 for corn and flour, chiefly from the United States and Germany; the remaining imports consist principally of manufactures, metals, coal, salt, tea, and other articles from Britain, and of West India produce. The above sums, it has to be observed, do not include the transactions with the adjoining colonies.

Ports.—Fredericton, the seat of government, pop. 3000, lies on the St John, 85 miles from its mouth, and, being accessible to sloops of 50 tons, carries on a considerable trade. The town of St John, situated near the mouth of the river, is, however, the commercial capital of the province; pop. 10,000. The chief other ports are, St Andrews, at the mouth of the St Croix; Miramichi, Chatham, and Newcastle, in Miramichi Bay; and Dalhousie, in the Bay of Chaleur. St John, St Andrews, and Miramichi are free ports; the two first being also warehousing ports. In 1838, 3527 vessels entered outwards, possessing a tonnage of 444,051; whereof Britain, 291,925 tons; British colonies, 118,800 tons; United States, 33,688 tons; foreign states, 638 tons.

The currency and mode of keeping accounts are the same as in Nova Scotia; and the premium for bills on England fluctuates from about 8 to 18 per cent. The average amount of paper in circulation in 1838-39 was £350,000, consisting of the notes of five local banks and the Bank of British America, and of notes issued by the Corporation of St John.

The public revenue, amounting annually to about £60,000, is chiefly derived from import duties. The provincial duties are trifling; on British manufactures 2½ per cent. is levied, excepting, however, articles required in shipbuilding, machinery, refined sugar, provisions, and books. The crown duties (levied only on foreign goods) are detailed under the head COLONY.

NEWFOUNDLAND, an island and British colony lying in the Atlantic Ocean, E. from the Gulf of St Lawrence. Area, 57,000 sq. miles. Population in 1837,

mostly of Irish or Scotch origin. The administration is vested in a governor, executive and legislative councils, and a house of assembly of 15 members.

The island is triangular in form, and the shores are rugged and indented. Little is known of the interior except that it is in some parts hilly, is intersected by numerous lakes and streams, and the soil is in general rocky and barren, and produces little good timber. The climate is humid, but winter is intensely cold. The importance of Newfoundland is derived solely from the fisheries on its coasts, and those of the contiguous parts of Labrador, and upon the submarine banks to the S. E.; and the settlements, which amount to 60 or 70, are confined to the shores; the greater part being on the eastern and southern, particularly the former. The principal town is St John, situated on the peninsula at the extremity of Avalon, in lat. 47° 33' N. long. 52° 47' W.; population from about 10,000 to 15,000, according to the season. Harbour-Grace, and St John, are the chief other trading places: both are free warehousing ports.

The fishery has been already described under the head COD. The quantities procured and dried in the years 1837, 1838, and 1839, were, respectively, 848,096, 724,515, and 865,377 quintals, each year; the chief other articles of produce in 1839 were seal and cod oil and blubber, 2,244,252 lbs.; 637,501 seal skins; 20,806 barrels herrings; and 2922 tierces salmon. The value of the produce amounted annually from about £800,000 to £850,000. The agricultural produce being small quantities of potatoes, oats, and hay, the island is almost entirely dependent upon other countries: Corn and flour are imported from the United States, Germany, and France; beef, bread, biscuit, butter, and other provisions, from Ireland and Hamburg. The principal imports consist chiefly of manufactures, fishing-tackle, cordage, and apparel from Britain, molasses, and sugar, from the W. Indies; and salt from Britain, Portugal, and Spain. The shipping which entered inwards in 1839, amounted to 861 vessels, 91,661 tons: whereof Britain, 45,000 tons; British colonies, 28,064 tons; United States, 5207 tons; and foreign, 39,000 tons.

The currency and mode of keeping accounts are similar to those of NOVA SCOTIA. The circulating medium is composed of dollars, British coins, and of notes issued by the bank of British America, which has a branch at St John. For other regulations see the article COLONY.

NEWFOUNDLAND, a dependency of Newfoundland, from which it is separated by the Straits of Bellefleur, and a sterile region between Hudson's Bay and the Atlantic. Its prevailing features are bays, rivers, and mountains covered with forests. Its shores, inhabited chiefly by Esquimaux, are resorted to in the prosecution of the cod fishery, especially the S. E. tract.

GRANADA, one of the three Colombian republics, occupies the most northern portion of S. America, including part of the Isthmus of Darien: it lies between lat. 1° S. and 12° N., and between long. 68° and 83° W.; and is bounded N. by the Caribbean Sea; E. by Venezuela; S. by Ecuador; and W. by the Pacific and Colombia. Area, about 380,000 sq. miles. Population in 1836, 1,686,038, of whom 1,000,000 are of Spanish origin, but chiefly Indians, negroes, and mixed races. Departments, Magdalena, Boyaca, Cundinamarca, and Cauca, which are subdivided into 20 provinces. Capital, Bogota, an inland city, pop. 40,000. The executive power is vested in a congress, consisting of a senate and house of representatives; the executive in a president and vice-president, as in the United States.

Granada, like the other American states situated within the tropics and penetrated by the Andes, is characterized by great diversities of soil and climate, and consequently of productions. The principal crops are Indian cereals, potatoes, and the aracacha root, are objects of culture on the table-lands, and in the districts along the western declivity of the Eastern Andes. In the vales of Magdalena, Cauca, and other great rivers, as well as on the low plains along the coast, plantains are reared as food; while cotton (called in trade Carthagena cotton), cacao, and a little sugar, are cultivated as articles of commerce. Timber abounds, and many valuable dye-woods. Brasilletto and fustic are obtained from the forests which enclose the Sierra Nevada. Ipecacuanha is collected on the banks of the Magdalena; and cinchona on the banks of the Rio Sinu. The Merida and other places. The balsam of Tolu is procured on the banks of the Rio Sinu. The Casanare feed large herds of cattle, which supply abundance of jerked beef and hides. The country, however, is chiefly distinguished for its minerals, which mostly occur on the western slopes of the chains of the Andes. They consist of gold, silver, platina, mercury, copper, iron, and rock-salt. By far the most important is gold, which is more abundant here than in any other country of America. The greater part is obtained by washing auriferous soils in the pro-ducts of the country. At the beginning of the present century, the annual produce of gold was estimated at 20,000 marks, value, £620,000; but the troubles consequent on the separation from the dominion of Spain, and the smuggling produced by injudicious commercial regulations and monopolies, render it difficult to state the extent to which this or the other products of the country are at present available.

Granada labours under many disadvantages as to trade; the coast districts being marshy and unhealthy; while the inland and healthy regions are so situated that no one can communicate from the ports without very great expense, except the valley of the Upper Magdalena, the mouth of which is sent down that river to Santa Martha and Carthagena. This is more especially the case with the valley of the Upper Cauca, the most fertile tract of the republic, which is surrounded by high mountains; its produce is mostly sent to Buenaventura, over the Andes, some parts of which are so steep that the merchandise has to be carried by men. One of the most populous district, the mountainous country of Boyaca, is sent by the river to the Venezuelan harbours of Maracaybo. In 1835, the total value of the exports was \$6,206; and of the imports, \$3,292,625.

On the Atlantic side, Rio Hacha, Santa Martha, Savinalla, Carthagena, and Portobello; on the Pacific side, Chagres, Panama, Choco, and Buenaventura.

Carthagena, formerly considered the great bulwark of Spanish America, is a strongly fortified city, and the chief naval arsenal of the republic; it lies on a sandy peninsula in the Caribbean Sea, in lat. 10° 25' N., long. 75° 34' W. Pop. 18,000. The port, one of the best and most secure on the N. coast of S. America, is that whence the packets sail between Colombia

and the United States and Europe. In 1837, the exports amounted to \$1,799,094, or £359,819; whereof, £340,297 consisted of bullion, mostly gold, shipped in Queen's ships to England.

Santa Martha, about 100 miles N. E. from Carthagena, pop. 8000, has a good harbour and a considerable trade: it exports dye-woods, and is the channel through which British manufactures and other goods are forwarded to the Rio Magdalena. In the year ending May 31, 1834, the exports amounted to \$231,156; and the imports, mostly from Britain, France, and the United States, to \$1,249,878; the shipping entered in the same year amounted to 12,196 tons.

The Measures and Weights are the same as those of Spain. The integer of account is the *plastre* or dollar, divided into 8 reals. At Carthagena and other places prices and exchanges are quoted in ordinary dollars, commonly at the rate of \$5 per £1. The Colombian, or "Macuquina dollar," however, is different; its usual rate of exchange being \$6½ or \$6 per £1.

The public Revenue in the year to August 31, 1835, amounted to \$2,337,836, mostly from customs, the tobacco monopoly, and sales of land: the expenditure was nearly of the same amount, but it did not embrace any payments on account of the interest on the foreign debt, explained under COLOMBIA, to which, in 1837, the congress agreed to appropriate one-eighth of the import duties, and one-half of the surplus revenues from 1st October 1836, as well as the net proceeds of the tobacco monopoly: various items were at same time set aside for the redemption of the capital.

NEW SOUTH WALES, a British colony, occupying the S. E. part of the continent of Australia; the settled portions chiefly embracing the district within 200 miles of the E. coast between Port Macquarrie, in lat. 31° 27' S., and the Murrumbidgee River, in lat. 36° S.; and the Port Phillip district on the S. coast. Population in March 1841: males, 85,168; females, 43,558; total, 128,726; whereof 26,976 were transported convicts,—the colony having been originally founded (1788) as a penal settlement. The administration of public affairs is vested in a governor; an executive council appointed by the crown; and a legislative assembly, consisting of 12 members nominated by the crown, and 18 elected by the colonists. The crown originates money-votes; and the colonial revenues are permanently charged with £51,000 of salaries to judges and public officers, and £30,000 for public worship.

The principal geographical feature of the east coast district is a range of mountains, which, E. of the parallel of 33°, where it is called the Blue Mountains, runs nearly N. and S., at an average distance of 40 or 50 miles from the shore; but at that latitude it declines to the W. until 38°, where its distance from the sea is 140 miles. It then turns suddenly to the E., and, under the name of the "Liverpool Range," continues in this direction for about 50 miles, till it again resumes its former course, at a distance of 80 or 100 miles from the shore. This mountainous ridge divides the Murrumbidgee, Clyde, Shoalhaven, Hawkesbury, Hunter, Manning, Hastings, and other streams, which intersect the E. coast, from the Darling, Macquarrie, Lachlan, and Murrumbidgee, which, rising on its western side, flow for a considerable distance into the interior, until, taking a southerly course, they unite in the Murray, and fall into the shallow lake Alexandrina, contiguous to Encounter Bay.

The country between the dividing range and the sea is undulating or hilly: the flats, mostly along the shore, are generally of small breadth, though in some places they extend nearly to the dividing range itself. These flats are almost free of timber, and have commonly a poor sandy soil, though abounding with herbage for cattle; but the hilly districts, which, in a few places, as at Newcastle and Port Macquarrie, descend to the coast, are generally better,—the valleys having commonly a strong soil, covered, in its natural state, with a vigorous vegetation, and yielding, when cultivated, good crops of corn. The interior, or western declivities of the Blue Mountains and Liverpool ranges, consist of a series of terraces, having a rich dry soil, admirably adapted for sheep pasture, especially in the districts called Bathurst Plains, Liverpool Plains, and Yass Plains. Beyond the meridian of 148°, these terraces descend to a very low level country, which, as far as explored, is monotonous, deficient in vegetable matter, and, to a considerable extent, flooded during the rainy season.

The rivers afford few or no facilities for inland navigation; those on the coast side of the mountain-range being generally of small size; while those running into the interior, receiving few affluents, shoal and narrow as they proceed, until by absorption and evaporation they are sometimes almost wholly dried up. But numerous carriage roads have been constructed by the convicts; these are principally in the coast districts, though one is now made in the direction of Bathurst, across the Blue Mountains, formerly deemed impassable in this way.

The Port Phillip district, the Australia Felix of Major Mitchell, by whom it was first explored in 1835, lies on the S. coast, nearly opposite to Van Diemen's Land. It is separated from the east coast district just described by the lofty Warragonga or Australian Alps, and an extensive uncultivated territory. Being less arid and more fertile than the other part of the colony, it has, since its capabilities were made known, been the favourite resort of emigrants; and its advance in prosperity has amply justified the discoverer's self-congratulation of "being the harbinger of many changes,"—there being already many thousand acres under crop, besides a great extent of territory located as pasture.

The climate, eminently salubrious, resembles that of Italy, but is drier; the extremes of temperature are also greater, the average heat less, and decreases more rapidly by elevation. The seasons are the reverse of those of Britain,—January being the warmest month, and July the coldest; but frost is rare, and snow never lies in the valleys. The rains mostly occur on the E. coast in May, and in the interior in summer. On the former Fahrenheit ranges in summer between 36° and 146°,—its mean being 70°; in winter, between 27° and 98°,—its mean being 66°. The most unfavourable characteristic is the fearful droughts which periodically occur; these are succeeded by excessive rains, which decrease yearly until they again cease; the cycle embracing 10 or 12 years. These visitations will, however, be probably modified as cultivation is extended.

The vegetable productions are as yet unimportant. The timber, generally of the hard wood kind, is not very valuable; and the trees are rarely so numerous as to impede horse-travelling. The finer fruits, however, have been introduced; and, in 1840, about 3500 gallons of good wine

made by some German settlers; the olive also thrives. Almost every kind of corn is cultivated; but owing to the preference given to sheep-husbandry, the supply is insufficient for the nation. In 1838, the land under crop amounted only to 92,912 acres; whereof 48,060 were sown in wheat; 25,043 in maize; 2922 in barley; 3767 in oats; and 9939 in sown grasses: the remainder supplied with trifling quantities of rye, tobacco, potatoes, and millet.

Sheep-farming of New South Wales dates from 1797, when Captain Macarthur, observing the favourable influence of the soil and climate on the fleeces of ordinary stock, procured from the few of the Merino kind, whose breed he continued pure, though the settlers generally gave preference to animals of heavier carcass, from their returning a more immediate profit, until 1822; after which the Merinoes became the principal subject of attention, and their wool the staple of the colony. In 1807, the quantity shipped was only 245 lbs.; and, in 1820, not 20,415 lbs.; it then rose, in 1825, to 411,600 lbs.; in 1830, to 899,750 lbs.; in 1835, to 3,776,191 lbs.; and in 1840 (including 929,325 lbs. from Port Phillip), to 7,668,960 lbs. This rapid progress is, in a great degree, attributable to—what to many seemed the bane of the colony—the importation thither of convicts, of whom upwards of 80,000 were sent prior to 1840. The greater number being assigned to settlers, and proving (under the colonial discipline) efficient servants, this young and remote settlement in a position as to labour which it could not otherwise have attained. In August 1840, farther transportation was stopped, owing to the difficulty which would be felt in combining convict with free labour, and other circumstances affecting the interests of the colony. This change has produced some embarrassment; but the tide of emigration has now, it is believed, set in too strongly to render its unfavourable influence either than temporary. In the 10 years ending 1838, only 23,185 free immigrants arrived. In 1839, however, no fewer than 14,392 left the United Kingdom for Australia, including 7648 to New South Wales; and, in 1841, 28,724, including 17,492 to Sydney, and 9694 to Port Phillip. This increase is mainly owing to the allowance of bounties to labourers out of the land sales.

The principal branch of industry next in importance is the South Sea whale-fishery, in which the colony employs a considerable amount of shipping employed; yielding of exportable produce, in 1840, 4298 tons sperm, and 4298 tons black whale oil, besides 250 tons whalebone.

Manufactures, except a few distilleries, breweries, candle and soap works, can scarcely be said to exist. Minerals, however, abound, especially iron and coal; and mines of the latter are worked on Hunter's River.

The principal commercial relations are with Britain, to which (excepting trifling quantities of wool and oil to the United States) the whole produce of the colony is sent, and by which it is supplied with every kind of manufactured goods. The declared value of British manufactures and manufactures sent to all the Australian settlements, though only £314,677 in 1830, amounted in 1838 to £1,682; in 1839 to £1,679,380; and in 1840 to £2,004,385. A variety of foreign and tropical goods are besides sent, including in 1840 460,753 galls. rum; 428,666 galls. brandy; 184,151 galls. Geneva; 750,322 galls. wine, mostly sherry and port; and 847,968 lbs. tobacco and snuff. The great bulk of these were destined to New South Wales; to which the chief other imports are from Mauritius; corn from Van Diemen's Land and Chili; rice from India, Java, and the United States; coffee from Java; tea from China; and wine from the Cape. These countries, for a few articles from the colony in return, a considerable balance has occasionally to be rendered to them in specie.

Imports into New South Wales alone (including Port Phillip), in 1838, 1839, and 1840, were thereat £1,383,759, £1,788,381, and £2,462,858 respectively: the last made up of—liquors, £2,960,774 galls. spirits!; £338,494; clothing, bedding, &c., £787,958; sugar, teas, and other edibles, £502,149; tobacco, salt, soap, candles, &c., £198,022; furniture, carriages, and other articles for personal or domestic use, £122,249; hardware, metals, leather, glass, and other articles in use for agriculture, manufactures, and trade, £450,996; books, printing materials, &c., £50,032; forage, £6,551; coin, £6,407. The exports, besides wool and a small amount of timber, chiefly cedar and blue gum, and the reshipment of imported commodities to New Zealand and other places. Their amount is always considerably below that of the imports, the difference being in general made up by government expenditure, and the investment of British capital by new settlers and otherwise. In 1840, however, the excess of imports was forced to a great extent by over-exports from the mother-country; a circumstance which, joined to the loose credit-system, and financial excitement in the colony, was productive of great embarrassment.

Sydney, the seat of government and chief commercial emporium, lies on the E. coast, in lat. 33° 51' S., long. 151° 14' E., on the S. side of the magnificent inlet called Port Jackson, 7 miles from its mouth. Population in 1841, 29,973. It is a free warehousing port. The town is situated in a narrow valley, and partly on a slope rising from the shore; and its tastefully laid out streets, with well-constructed houses, and numerous government, educational, religious, and commercial establishments, indicate a stirring and flourishing community. It occupies a considerable space, the greater part of the houses having gardens; but nearly two-thirds of its circuit are environed by the coverts of Port Jackson. This inlet affords excellent anchorage and protection to shipping, and is so deep, that at Sydney the vessels come close up to the wharfs; it is also navigable to Paramatta, 15 miles from Sydney.

The exports in 1840 amounted to £1,251,544; whereof wool, timber, &c., £562,172; oil, whalebone, £265,920; and goods re-exported, £423,452.

Melbourne, on the S. coast, in lat. 37° 49' S., long. 145° E., is beautifully situated at the falls of the river Yarra Yarra, a few miles from the bay of Port Phillip. Ships of 200 tons can be dismasted at the town, while the largest vessels have secure anchorage and shelter in the roadstead. It is rising to great commercial importance, being the outlet of the range of fertile country lying from the seacoast to the Murray, and also favourably situated for intercourse with the other ports of Australia. The exports amounted, in 1840, to £154,650; and, in 1841 (including 17,071 lbs. wool), to £139,100. The imports, in 1841, amounted to £335,052; and the tonnage entering inwards to 52,500 tons. It is a free warehousing port.

MEASURES, MONEY, BANKS, DUTIES, &c.

Measures and Weights, same as Britain.

Accounts are kept in sterling; and the coinage is almost wholly British, chiefly silver.

Banking, which, with bank-notes for £1 and upwards (convertible into specie on demand), compose the ordinary currency; though business is mostly done in cash.

transacted by means of bank cheques; the mass of pecuniary transactions centring in Sydney.

Bills on London are commonly drawn at 30 or 60 days' sight; and the course of exchange varies usually from about 5 per cent. premium to 5 per cent. discount. Few if any bills are negotiated on foreign countries.

Banks.—Bank of Australia, founded 1826; Bank of New South Wales, 1827; Commercial Bank, 1834; Union Bank; Sydney Banking Company, and Bank of Australasia. The last, a chartered body, has its head-office in London; the others are colonial joint-stock companies. On March 31, 1841, their aggregate circulation amounted to £222,812; specie, £342,130; and bills and securities held, £2,615,291.

The interest generally allowed by the banks on current accounts is 4 per cent., and discounts are charged at 10 per cent. per annum. The legal rate is 8 per cent.; but 10 to 12½ per cent. is the ordinary rate demanded by individuals; and much higher is frequently given.

Besides banks, there are in Sydney insurance, gas, and a variety of other joint-stock companies.

Duties on spirits distilled from Australian

NEWSPAPERS, unless the Roman "Acta Diurna" can be so called, originated in Venice in 1563, when the "Gazetta" first appeared in a written form. The first printed sheet of intelligence is commonly said to have been the "English Mercurie," published in 1588, while the Spanish Armada was in the Channel; but the authenticity of the copies of this paper in the British Museum is doubted; while these (if genuine), as well as the later "Packets of News," were only issued occasionally. Of regular prints, the earliest was probably Butler's "News of the Present Week," in 1622; about which time, likewise, newspapers began to be published on the Continent. During the Great Rebellion, many were spread abroad by the different parties, some interesting notices of which will be found in Mr D'Israeli's "Curiosities of Literature." In 1663, after the Restoration, Roger L'Estrange brought out, "with privilege," his "Intelligencer;" and two years afterwards, the "Gazette" was issued. In Scotland, the first newspaper published was "A Diurnal of some Passages and Affairs," originally printed in London, and reprinted at Leith in 1652; but the first written and printed was the "Mercurius Caledonius," at Edinburgh, December 31, 1660. In Dublin, the earliest was "Pue's Occurrences," about 1700. The first provincial paper was the "Norwich Postman," 1706, for a penny, but "a halfpenny not refused." Hitherto, the newspapers, though small in size, were generally, in a dearth of news, left in part empty. On such occasions, however, one publisher had recourse to the expedient of filling up with a sufficient portion of the Bible; others,—as the "Flying Post" and "Dawker's News Letter,"—were printed upon writing paper, so that the purchaser might use the blank space for correspondence with his country friends. The first London daily paper was the "Daily Courant," 1709. After this, newspapers became more common; but with the exception, perhaps, of Wilkes' scurrilous "North Briton," 1762, and the "Englishman," in which Burke wrote several articles in 1766, they excited comparatively little interest until after 1771, when the Parliamentary Debates were regularly published. The "Letters of Junius," in the "Public Advertiser" (1769-1772), taught newspaper writers to come out boldly, and accustom their readers to "the roll of the leading article."

The newspaper has since become, in this and all free countries, the established medium for the concentration and expression of public opinion; while, by the division of labour, mental as well as physical, assisted by powerful machinery, it is now fitted to satisfy public curiosity, down to the very hour of printing, on all the passing business of life. Of late years this rapidity has been followed up in Britain in every stage of its circulation, through the agencies of the steam-engine and the railroad, so that every pulsation in the heart of the kingdom is felt, with almost electrical celerity, in its remote extremities. Of the commercial importance of newspapers, it is almost unnecessary to speak. The very appearance of our journals, and more especially of those published at the great seaports, with their crowded columns of advertisements,—their announcements of ships departing and arriving from all parts of the world, as well as of all wrecks and casualties at sea,—their elaborate price currents,—and their almost interminable notices of home and foreign markets, stocks, funds, and exchanges, convey to the mind a far more

grain, 3s. per gallon; on British or colonial spirits imported from United Kingdom, 7s. 9d. per gallon; all other spirits, 9s. 2d. per gallon. On tobacco, manufactured, 2s. 6d. per lb.; unmanufactured, 1s. 6d. per lb. British manufactures, free. Foreign goods, 5 per cent. ad valorem. Articles, the produce of British India, same as similar articles of United Kingdom or colonies.

Revenue.—In 1840, the ordinary revenue was £311,748; whereof £252,000 taxes; £16,000 rents and dues; £17,800 office-fees; £14,940 post office; the crown revenues, from land-sales, quit-rents, licenses, &c., amounted to £332,737; total, £644,485.

The land fund in 1840 (including £4,522 for emigration ship-stores) amounted to £330,967; charges thereon, £189,378; whereof, £26,247 for surveys and sales; £14,716 to aborigines; and £148,315 for immigration: Leaving unapplied, £131,589. In the year to 30th June 1841, the sales amounted at Sydney to £67,657, and at Port Phillip to £182,762; total, £250,419; charges, £34,830; surplus, £215,589. The public land-sales are now (1842) made by auction, at a minimum price never less than 12s. per acre, instead of the fixed rate of £1 as formerly.

terrible impression of the utility and value of these vehicles of intelligence to the merchant, than can be imparted by any language.

The number of newspapers in 1702 was 61, of which 30 were in England, 8 in Scotland, and 3 in Ireland. In 1790, the total number was 114; in 1821, 216; and, in 1832, 300. In 1840, the number was 554, of which 137 were printed in London, 367 English provincial, 73 Scottish, and 07 Irish; the total number of stamps issued being 60,774,837, of which 31,405,243 were issued in London. In 1836, the total number of stamps issued was 35,376,034, which, though 40 per cent. below the year 1840, was nearly double the amount at the commencement of the century.

In 1711, as a remedy against "seditious papers and seditious rumours," Queen Anne's government imposed upon newspapers a stamp-duty of a halfpenny, afterwards gradually increased to 4d. (with a discount of 30 per cent.); at which rate it continued until 18th September 1836, when it was reduced to 1d. by the act 5 & 7 Wm. IV. c. 70.

ASSIGNMENT OF THE ACT 5 & 7 Wm. IV. c. 70.

§ 1. Stamp duty. For every newspaper 1d. per where one side, exclusive of the margin, contains a superficies exceeding 1500 inches, and not exceeding 2000 inches; 1d. additional but not exceeding 2000 inches, 1d. additional. A supplement not exceeding 750 inches in a paper charged with duty is chargeable with 1d. For the kind of newspapers are included—1st. Papers containing public news, intelligence, or correspondence, printed to be dispersed and made public. 2d. Papers containing any or several daily advertisements printed at 1 farthing a line, depending on date. 3d. Any paper containing public news or remarks thereon, published periodically or in parts at intervals not exceeding 14 days, where any of the numbers does not exceed two sheets, or short for the purpose of the act being a piece of paper not less than 21 by 17 inches, exclusive of cover, &c. as is published for less than 1d. every 10 of the duty. For example, are: Public notices or lines and key daily accounts or bills of goods imported and exported, or warrants or certificates for the delivery of goods weekly bills of mortality, bills of exchange current status of the market accounts of the service, sailing list of merchant vessels, or any other matter usually of a commercial nature. The duties commenced on 1st Jan. 1837. (Where laws for enforcing stamps to be applied to for no compliance with this act.)

§ 2. Discount of 25 per cent. allowed on newspaper stamps in Ireland.

§ 3. Titles with name or part name of paper to be prepared, and when required, altered at the request of proprietor of such paper, and any other person entitled to stamp to be of no avail.

§ 4. Supplements must be of the same date with papers and have the word "Supplement" printed in the title of the paper, and the newspaper must show in conspicuous characters that a supplement is published with it under penalty of £20. Selling might result apart from paper in some cases.

§ 5. Notice, publishing declaration to be given to the Stamp Office stating title page of print, and of publishing with name and address of printer, publisher, and every proprietor out of the kingdom, or of every proprietor in the kingdom if 12 or more persons, exclusive of printer and publisher, if more than two, of any two where individual shares are not less than any other proprietors residing in the kingdom, &c. &c. of the printer and publisher the amount of the share of each being stated. The declaration to be signed by the printer or publisher, and by those proprietors named in it who are within the kingdom. New declaration to be made on any change which renders the original one obsolete, and whenever a new declaration is required by notice from the Stamp Office. Persons failing to do declaration to be held guilty of mis-

demerit. (7) Person failing to give declaration to forfeit £50 for each publication, and to be denied stamps. (8) Declaration to be filed, and be constructive evidence of the execution of each person signing it with the newspaper, unless he have given in declaration to Stamp Office of his coming to be proprietor, &c. or a new declaration has been given in as above, and not executed in by him. Certified copy of declaration may be obtained for 1s., and where such certificate produced along with newspaper, not necessary to prove payment of newspaper. Unqualified person granting certificate, or purporting to grant one falsely, to forfeit £100.

§ 6. Service of process at the place of printing or publishing mentioned in declaration, to be sufficient against the individuals mentioned.

§ 10. Titles and names of printer and publisher to be entered in a book, and kept at head-office for inspection without fee.

§ 11. Printer, publisher, and proprietors (one or more at discretion of Commissioners), and two approved clerks, to give bond for advertisement-duty renewable on alterations, and at direction of Commissioners, on penalty of £100 for each publication.

§ 12. Affidavit and bond given in previous to commencement of act, to have same effect as declaration and bond by the act, except where such alterations take place as would require new declaration.

§ 13. Publisher in London, Edinburgh, or Dublin district to deliver copy of each edition to Stamp Office between 10 and 3 on day of publication or following day not a holiday, with his name and address written by himself or a person appointed and intimated to the Stamp Office. The same to be done in other districts within three days, two copies being delivered. Penalty on failure, £20. Price of newspaper to be paid weekly by Stamp Office. Newspaper to be kept forthcoming as evidence. On petition, publisher not in the Edinburgh district may be authorized by Commissioners to lodge paper in a more convenient office than that of his district.

§ 14. At end of every newspaper, supplement, or sheet, name and address of printer and publisher, and place and time of printing and publishing, to be stated, under penalty of £20.

§ 15. None to vend stamps but those formally authorized, and publishers not to supply one another, or to purchase from unauthorized persons, under penalty of £50. (16) Persons publishing without stamp to be liable for stamp-duty as a debt, independently of penalties. (17) Persons publishing selling, or possessing unstamped papers, may be summarily fined £20 for each, or, on default, be imprisoned for not more than three or less than one calendar month, by one Justice, on application of officer of stamps. (18) Penalty of £20 for sending unstamped

paid, under penalty of £20.

§ 22. On information on oath as to transgressions of the act, and application of officer of stamps, Justice may grant warrant to search premises in the daytime, and if unstamped papers found, they, and all presses and types used for printing them, and others in the same premises, to be seized and forfeited. (23.) In execution of warrant, doors may be broken open in the daytime. Persons obstructing forfeit £20. Peace-officer refusing to act forfeits £10.

§ 24. A printer may deliver notice of his name, address, and place of business, and a list of

presence of accused, may in-
ing penalty and costs by sal-
for not more than three or 1
month. Appeal on recogno-
to next general or quarter

§ 29-32. Forms of process

§ 33. Acts not repealed &
etc.

§ 34. Where stamps re-
duction or change of die,
months, others substituted
in value.

Newspapers abound in all the British colonies, even in the yo-
land; to which, indeed, materials for printing a journal were a
settlers. Several have been established in the West Indies by the
tion as their special organs, and are supported and conducted enti-
while in India, besides those in English, there are many in the
In the United States nearly 100,000,000 copies are annually circula-
tax, and the postage, when they are not sent above 100 miles, is
but their circulation is more essentially local than in Britain, owi-
of the population. In the absolute monarchies of the Continent,
tered by a rigorous censorship, and in several other states it
modified superintendence; their newspapers are from this cause, as
of the people, comparatively small in number, and less occupied i
jects. In France, however, the amount of periodical journals is
which 326, including 27 daily papers, with an average sale of
longed to Paris. This is apparently a great excess over Britain
comparison complete it would be necessary to keep in view our u
icals; also, that in point of size and "getting up," the best Par
not equal our ordinary provincial ones, and sink into insignificance
with the giant of Printing-house Square. Again, notwithstanding
newspapers are said to excel in the comprehensive, sober, and cr
of general principles to political questions, being less biassed by
reproach of the British and especially of the American press
that species of power which characterizes our daily prints. "J
"Journalism of Paris" is supposed by those conversant with
exercise a greater influence in France than the London papers d
out of France the Parisian journals scarcely affect public opinion
was proved by the slave-trade agitation, the influence of the Lon
over the civilized world. [ADVERTISEMENTS.]

NEW YORK. [UNITED STATES OF NORTH AMERICA.]

NEW ZEALAND. [ZEALAND, NEW.]

NICARAGUA OR PEACH WOOD, an inferior kind of br-
dye a bright fugitive "fancy red." About 2500 tons are annual
Central and South America

lantic within the above limits, as well as those which run into Lake Tchad. Of the interior of this vast region little is known beyond what is furnished by Park, Denham, Clapperton, Lander, and other travellers. A trade of some consequence is carried on between it and the Barbary States, as well as Egypt, by means of caravans which cross the Desert; but our information regarding this intercourse is scanty, and not very recent. In the present article, therefore, we shall confine our attention principally to the coast-district, where several of the European nations have settlements.

Nigritia, though containing the mountains of Kong and other lofty elevations, may yet be described as upon the whole rather an undulating than hilly region. Being likewise wholly within the tropics, and mostly well watered, it is in general capable of yielding the richest products of the vegetable kingdom. These advantages, however, have been in only a trifling degree improved by agriculture; and, excepting small portions around the towns and villages, the great mass of the country consists of dense forests and jungles, swarming with wild beasts and noxious reptiles. The products of culture are chiefly maize and millet, to which in some places are added rice, yams, coffee, sugar, and cotton; but scarcely any of these have been raised for more than native use. As yet, notwithstanding the exertions of Britain, the traffic in slaves forms the grand staple of the intercourse with foreigners. [SLAVE.] Of the commodities which form the subjects of legitimate commerce, the most important is the oil of the palm tree. [PALM OIL.] The chief others are—gold, found principally in the mountainous districts at the heads of the Senegal and Gambia, and in Upper Guinea, from whence it is carried down these rivers as well as to the Gold Coast; ivory or elephants' teeth drawn also from the interior; gums, particularly gum-senegal, procured from forests in the half-desert tracts north of that river; also teak and various kinds of ornamental and dyewoods, especially that called cam-wood. These articles are exchanged for European goods, —mostly cottons, arms and ammunition, iron and other metals, spirits, and cowries, which last are largely introduced as a medium of circulation.

The principal European settlements,—as the French on the Senegal, the British on the Gambia, and the Portuguese on the Rio Grande,—consist of fortified depôts at the mouths of rivers, from whence the merchants set out in boats at certain seasons, and ascend the streams as far as they are navigable; stopping at fixed stations to which the natives bring their productions to exchange for manufactures. In a few positions there are besides block-houses, wherein some black soldiers with European officers are kept for the protection of trade. Enterprise, however, is checked both by the savage habits of the natives and by the climate, which along the whole coast is highly insubrious to European constitutions, and on the shores of Guinea is pestilential to a degree quite unknown in any other part of the world.

BRITISH SETTLEMENTS.—*Bathurst*, a fortified town on St Mary's, a low swampy island, commanding the entrance of the Gambia, in lat. $13^{\circ} 28'$ N., long. $16^{\circ} 35'$ W.; pop. 3000. The British likewise possess *Fort James*, 30 miles, and *Macarthy's Island*, 300 miles farther up the same river, besides minor posts. Vessels of 300 tons navigate the Gambia for 60 leagues, and smaller vessels as far as Barraconda, 250 leagues. The exports from these settlements, consisting principally of bees' wax, gum, hides, ivory, mahogany, gold, and palm oil, amounted in the years 1837, 1838, and 1839 (including re-exports of tobacco, &c.), respectively to £138,226, £129,498, and £162,789; the imports to £99,763, £105,625, and £153,903; and the shipping employed in each year amounted to about 15,000 tons.

Sierra Leone, a colony occupying a peninsula about 450 miles S. from the Gambia; area, 393 sq. miles; pop. in 1839, 39,133, of which, however, only 99 were white. Freetown, the seat of government, is in lat. $8^{\circ} 30'$ N., long. $13^{\circ} 14'$ W. All the West India products have been introduced, and generally succeed, especially coffee; but the exports still consist mainly of timber, palm oil, and cam-wood. The chief imports are Manchester and India goods, provisions, tobacco, spirits, arms, and ammunition. In the years 1837, 1838, and 1839, the exports amounted respectively to £106,366, £64,996, and £58,440; and the imports to £79,472, £91,198, and £103,066. The British likewise possess several islands contiguous to this coast.

Cape Coast Castle, on the Gold Coast, in lat. $5^{\circ} 6'$ N., long. $1^{\circ} 13'$ W., may be considered the centre emporium between Sierra Leone and the delta of the Niger, for the introduction of British goods in exchange for gold dust, palm oil, and ivory. The chief other British possession on this coast is *Accra*, where a considerable trade is carried on with the Ashantees.

FRENCH SETTLEMENTS.—*St Louis*, on a sandbank at the mouth of the Senegal, in lat. $16^{\circ} 0'$ N., long. $91^{\circ} 11'$ W.; pop. 15,000, including 800 whites. Its chief advantages are confined to the gum-trade, and the gold-trade with the kingdom of Bambouk, in Upper Senegal; the last being chiefly carried on at *Bambek*, which, with *Podhor*, on the island of Morfil, are the chief other settlements in the river. For navigation the Senegal is far inferior to the Gambia; its ascent, indeed, being only practicable in the wet season from May to October.

Portandic, on the coast, about 140 miles N. from the Senegal, derives its chief if not sole importance from the gum-trade with the adjoining districts.

Considerable excitement has of late years been produced among the British merchants trading to this coast, by their exclusion from Portandic, notwithstanding the right guaranteed to them by art. 11 of the treaty of 1783 (since confirmed by the treaty of Paris), which provides: "As to the gum-trade, the English shall have the right of carrying it on from the mouth of the river St John to the bay and fort of Portandic inclusive: provided that they shall not form any permanent settlement of whatsoever nature in the said river St John, upon the coasts, or in the bay of Portandic." This matter is at present the subject of discussion between the two governments.

Albreder, a factory near Fort James, on the Gambia. This possession is disputed by the British, as being in contravention of the treaty above mentioned.

PORTUGUESE SETTLEMENTS.—*Bissao*, and other posts in the Rio Grande and adjoining coast.

Angola, at the extreme south of Nigritia, has been already noticed. [ANGOLA.]

DUTCH SETTLEMENTS.—*El Mina*, on the Gold Coast, 9 miles W. from Cape Coast Castle; also *Acta*, on this coast, and some minor posts.

DANISH SETTLEMENTS.—*Christianborg Castle*, near Accra, and *Ningpo*, near the E. of the Gold Coast.

AMERICAN SETTLEMENT.—*Liberia*, a small colony founded in 1821, at the mouth of the *San Pedro*, between *Sierra Leone* and *Cape Palmas*, as an asylum for liberated negroes.

Besides the intercourse at these settlements, there is a considerable floating traffic by which trade along the coast, or enter some of the large rivers, where their cargoes are for produce. This trade, which is of course the only kind carried on in the Gulf of Guinea between the Gold Coast and Angola, a tract where there are no European settlements, includes the fertile and populous countries watered by the embouchures of the *Quorra* and *Benue* large rivers, appears to be nearly as extensive as that conducted at the European settlements. The great staple is palm oil. According to *Messrs Laird and Oldfield*, "the best goods for trade are muskets, powder, red beads, white haff, common scarlet cloth, blue beads, iron tools, coarse stuff hats, pipes, tobacco in leaf, and looking-glasses. A puncheon of oil is worth so many bars, varying according to the state of the market; a gun is six bars; a head of a cow is two bars; and so on in proportion. Cowries are taken at *Ebue*, and all up the country. The slave-trade, however, is subject to frequent interruptions from the slave-trade. "In the *Bonny*, *Niger*, and *Cameroon* rivers, there are always British ships loading with palm oil and other produce; their commanders and crews making every exertion to complete their cargoes, and the natives actively engaged in collecting produce:—"A slave-trader arrives in the river; with the British vessels is instantly stopped; the canoes of the natives are armed and equipped for a marauding expedition to procure the slaves; and until these slaves are procured, no trade is pursued."—(*Laird and Oldfield's Africa*, vol. ii. p. 357.)

The exports of British produce and manufactures to the west coast of Africa, in the years 1831, 1835, and 1840, amounted respectively to £234,768, £292,540, and £492,138: mainly consisting of cottons, £261,297; arms and ammunition, £104,934; iron, £18,541; ware and cutlery, £14,000; brass and copper goods, £13,167; apparel, £8673; salt, £1,000. Besides small quantities of woollens, soap, and candles, hats, silks, glass, earthenware, &c. In the same year (1840), there were also sent from Britain 1,648,874 lbs. tobacco, besides Indian goods, cocoa, coffee, and other tropical products. The chief imports into Britain (excluding gold, which is not entered in the customs accounts) in 1840, consisted of 315,458 cwts. of tea; 12,541 loads of teak; 1933 cwts. ivory; 3773 cwts. bees' wax; 3235 cwts. hides; 42,015 lbs. pepper; and 896 cwts. ginger.

Accounts are kept at the European settlements in the national denominations of money, dollars, which, with cowries, form the principal currency along the coast.

NITRATE OF POTASH, or SALTPETRE (Fr. *Nitre*. Ger. *Salpeter*. Sp. & Por. *Nitro*, *Salitre*. Rus. *Senitra*. Per. *Shorak*. Hind. *Shorak*). It is a salt composed of nitric acid and potash. It crystallizes in general in prisms, with striated surfaces, very brittle, has a saline cooling taste. It undergoes no alteration in the air, though it attracts moisture in a moist atmosphere. On being exposed to heat it fuses, and in this state it is soon moulded into little cakes or balls, and called *sal prunella*. Saltpetre is used in making gunpowder, signal-lights, nitric and sulphuric acids; also for preserving meat. It is besides employed in metallurgy, dyeing, and in medicine. The saltpetre of this country is derived almost exclusively from Bengal, where it exists in the soil, and from which the rough nitre or crude saltpetre of commerce is obtained by lixiviation, crystallization, and evaporation: in this state it generally occurs in brownish broken crystals, more or less deliquescent. It is shipped from Calcutta in bags, each containing 164 lbs.; and the trade has greatly increased since the abolition of the Company's monopoly. From 200,000 to 260,000 cwts. are annually imported into the United Kingdom. In France, Germany, and Russia, saltpetre is produced artificially on what are called nitre beds.

NITRATE OF SODA, or CUBIC NITRE (Fr. *Nitrate de soude*. Ger. *Felsalpetre*), consists of nitric acid and soda. It is similar to saltpetre in its properties, differing chiefly in being more pungent in taste, more soluble in cold water, more inclined to attract moisture from the atmosphere, and in crystallizing in rhomboid form. This salt is found in immense quantities in deposits in America, particularly in the districts of *Atacama* and *Tarapaca* in Peru, and the frontiers of *Chili*, where it is found sometimes efflorescent, sometimes crystallized, but oftener confusedly mixed with clay and sand. Of late years it has been imported in considerable quantities into this country, where it is highly esteemed as a manure for pastures, and indeed for almost all sorts of agricultural purposes, except that grown upon heavy wet soils. It is also applied to many of the purposes for which nitrate of potash is used, though, being more deliquescent than that, it is not adapted for the manufacture of gunpowder. In 1840, 146,928 cwts. were imported into the United Kingdom from Peru and Chili.

NITRIC ACID (Fr. *Acide nitrique*. Ger. *Salpetersäure*), an intense red liquid, procured by distilling nitre with strong sulphuric acid. When pure it is colourless; and when most concentrated it has a sp. gr. of 1.5, in which it contains 25 per cent. of water. It is eminently corrosive, and its taste is acrid. In commerce it is sometimes called *aquafortis*, and generally occurs with a yellowish colour, owing to its containing nitrous acid in solution; beside

it is often highly diluted, and contaminated with sulphuric and muriatic acids, as also with alkaline sulphates and muriates. Nitric acid is used in large quantities. It is employed in a great variety of chemical processes; in metallurgy and assaying; for etching on iron and copper; in dyeing; and in medicine.

NORWAY, the western section of the Scandinavian peninsula, extends from lat. 58° to 71° N., and from long. 5° to 31° E. Area, 134,309 sq. miles. Population, 1,194,827. It was an appanage of the crown of Denmark until 1814, when, by the convention of Kiel, it was united with Sweden; retaining, however, its own representative body, or Storting. The executive power is vested in a viceroy and council at Christiania.

The general aspect of Norway is bleak, rugged, and steril. The shores are iron-bound, and on the west lined by numerous small islands, and indented by bays (*fjorde*). The interior is mostly covered with a rocky mass of mountains, or lofty plateaux (*fjelds*); and only about 100th part of the surface is supposed to be productive, though the climate is less rigorous than that of Sweden, particularly on the coast, owing to the prevalence of westerly winds. The lowest tracts, and those to which cultivation is chiefly limited, occur around Christiania Fiord and the adjoining shores of the Skager-rack, or to the S. and E. of the Bay of Drontheim. In other parts it is confined to the narrow valleys by which the mountain-masses are indented. The land is mostly the property of the farmers, and agriculture is in a rude state: the principal crop is rye, next oats, flax, and potatoes; but the grain raised is insufficient for the consumption. The manufactures are almost wholly domestic; and the internal trade is trifling, owing to the thinness of the population and the defective means of communication. The rivers are numerous, but their course is impetuous, broken, and unfit for navigation; though some are in part used to float down timber from the forests, which, with the fishings and mines, constitute as yet the chief sources of wealth.

The principal timber is pine; the most extensive forests are those covering the eastern declivity of the southern range, called the Norrøka Fiellen, and the hilly country eastwards; the produce of which is mostly shipped from Drammen, Langesund, Christiania, Christiansand, Frederickstad, Fredericksbald, and other southern ports; being previously, however, cut into barks, beams, and deals,—an operation which affords employment to numerous saw-mills. In 1835, the quantity exported was 225,772 lasts; whereof 64,039 were sent to Holland; 62,737 to France; 55,996 to the United Kingdom; and 32,176 to Denmark. Before 1810 the exports to Britain were much larger, but in that year a heavy duty was imposed on Baltic timber above Canadian, which led to the substitution of the latter, though much inferior. The late modification of the timber-duty, however, by Sir Robert Peel (1842), will perhaps stimulate the inhabitants to improve the means of conveyance between the forests and the ports, and thus lead in time to increased shipments.

Fishing is the chief branch of industry along the western coast. The principal station is the Lofoden Isles, especially East Vagoe; but the produce is exported from Bergen, Drontheim, Christiania, and other western ports on the mainland. In 1835, the shipments consisted of 29,733,313 lbs. dried cod, &c., and 16,074,141 lbs. haddock, sent chiefly to the S. of Europe; 470,712 barrels herring, mostly to the Baltic states; 749,302 lobsters, to London; 4,227,524 pots train oil, to Holland, Prussia, Hamburg, &c.; besides salmon, anchovies, and other fish.

Iron occurs in immense layers in the E. declivity of the Norrøka Fiellen, in the province of Christiansand; and in 1835, 3,440,170 lbs. were shipped in bars, besides 330,063 lbs. in pig, mostly to Denmark, from Oesterisøer, Langesund, and Christiania. Copper abounds in the Dovrefield range, at Roraa, Medal, and Selby; and in 1835, 2,460,000 lbs. ore were exported at Hammerfest, chiefly to Britain; besides 759,384 lbs. refined metal at Drontheim, to the Netherlands and Altona. Cobalt, found in the E. declivity of the Norrøka Fiellen, is mostly shipped at Drammen, in the form of smalts; 228,477 lbs. being exported in 1835, chiefly to Holland and England. Silver is worked at Kongsberg. Besides which, lead, zinc, marble, and slate, are found in various places, though as yet they scarcely form articles of exportation.

The only other articles of export deserving of notice are bark, bones, and horns; skins, especially those of the rein-deer, the hunting of which is a leading occupation in the northern districts; oil-skins, feathers, and grindstones.

The imports consist principally of corn, butter, cheese, and provisions from Denmark; colonial produce from Altona, Hamburg, and Britain; the last likewise furnishing earthenware and other manufactures; wine, brandy, fruit, and dressed leather from France; cheese, iron pots, hoops, flax, and rape and linseed oil from Holland; and hemp, flax, and sailcloth from Russia. In 1835, the shipping entered inwards from foreign countries amounted to 6599 vessels, 234,989 lasts; whereof, from Holland, 55,351 lasts; Britain, 49,634 lasts; France, 47,874 lasts; Denmark, 38,386 lasts: the chief ports of entry were,—Drammen, 38,276 lasts; Bergen, 22,764 lasts; Langesund, 19,866 lasts; and Christiania, 19,545 lasts.

The shipping of Norway is slowly on the increase: in 1835, there belonged to it 2272 vessels, of 75,489 lasts, navigated by 11,279 men. Much of it is employed in the carrying trade of other countries; while of the shipping entering from foreign ports, more than two-thirds is under the national flag.

PORTS.—1st, *On the Skager Rack*,—Christiania, the capital, in lat. $59^{\circ} 54'$ N., long. $10^{\circ} 45'$ E., is picturesquely situated at the bottom of a deep fiord, uniting with the farthest N. point of the Skager Rack, pop. 23,121. Drammen, a long straggling town, 20 miles S. W. of Christiania, pop. 7864, is the principal seat of the timber-trade. The chief others are Langesund, Frederickstad, Fredericksbald, Laurvig, Kragerø, Oesterisøer, Arendal, and Christiansand.

2d, *On the West Coast*,—Bergen is a strongly fortified town in a bay, with a commodious harbour, though of dangerous access; lat. $60^{\circ} 24'$ N., long. $5^{\circ} 18'$ E.; pop. 22,339. Drontheim or Trondheim, the ancient residence of the Norwegian kings, lies on a large fiord, in lat. $63^{\circ} 26'$ N., long. $10^{\circ} 24'$ E.; pop. 12,700. The chief others are Christiansand, Stavanger, and Flekkefjord.

MEASURES, MONEY, &c.

Measures and Weights, generally same as Denmark. *Money*.—Accounts are kept in species-dollars, divided into 5 marks or orts, each of 24 skillings.

The silver species-dollar = 2 Danish rigsbank dollars = 4s. 6d. sterling; but money is reckoned in the paper of the Bank of Norway. In 1836, the Storthing fixed 115 and 110 paper dollars as the maximum and minimum rates at which the bank could pay 100 dollars in silver; making the value of the bank dollar about 4s. This bank, established in 1816, has its principal office at Drontheim, with branches at Christiania, Bergen, and Christian-sand. The notes for 24 skillings, 60 skillings, and 1 species-dollar, are printed on white paper; those for 5 species-dollars on blue; those for 10

species-dollars on yellow; and those for 50 species-dollars on green paper.

There are no gold coins; and although silver dollars, and half dollars, are in circulation, yet for all sums above 24 skillings (9d.), the value of the lowest bank note, paper money is in general use. The *skillemynat*, or small money, consists of silver pieces of 4 and 2 skillings, and copper coins of 1 and 2 skillings value.

Exchanges with foreign countries are usually effected in banco, through the medium of HAMBURG.

NOTICE, in the law of bills of exchange and promissory notes. A holder of a bill is bound to give notice of non-acceptance or non-payment, to any party other than the acceptor or maker, on whom he means to claim for recourse. Want of notice of non-acceptance, however, is no bar to the claim of an onerous indorsee, who has taken the bill before it becomes due, and without marks of dishonour. If a conditional acceptance is taken, notice must be given, otherwise the parties may be released. Notice is required, that the drawer and indorsers may take measures, through their transactions with the drawee or otherwise, to secure their remedy in the case of being compelled to take up the bill. It is a presumption of law that damage is occasioned where notice is omitted; and proof to the contrary will not be received. If the bill is for the accommodation of the drawer, and the drawee has no effects of his, and is not otherwise under any obligation to accept or pay, the drawer is not entitled to notice of dishonour. But the nature of the bill, as between the original parties, will not affect the right of an indorser who has been an onerous holder, to notice. If the drawee has had any effects of the drawer in his hands, "it would be dangerous and inconvenient, merely on account of the shifting of a balance, to hold notice not to be necessary" (*Chitty*, 328). It is no excuse for want of notice, where there are effects, that the drawee has explained to the drawer that he would not be able to provide for the bill. Notice from any party accrues to the benefit of every other party, between the person who gives it and him to whom it is given. The notice must bear that the holder intends to claim recourse, and so information of dishonour, casually obtained, or communicated by a third party, will not suffice; but a holder who sends notice to his immediate indorser, may profit by its being conveyed to the drawer if without delay, either directly from that indorser, or from him through another indorser. It is prudent on the part of each party who intends to claim recourse to send notice to every party against whom he thinks he may have any occasion to exercise the right of recourse. In the case of a foreign bill, when the notice is to a party abroad, information should be conveyed of protest having been taken. [PROTEST.]

There is no particular form for notice; it is sufficient that both the dishonour and the intention to claim in recourse be distinctly stated. Notice should be sent without delay; it may be sent immediately on acceptance or payment being absolutely refused, as such refusal is dishonour, though retracted. Where parties reside in the same place, notice of non-payment should be given on the expiration of the day following the refusal; where they reside in different places, it should be posted on such day following. "It is settled that it is *never necessary* to give or forward notice of the non-payment *on the same day* when a bill or note falls due" (*Chitty*, 482). The same rule applies to non-acceptance of inland bills; "but it is now settled that in the case of a *foreign* bill, notice should be given on the day of the dishonour, if any post or ordinary conveyance sets out on that day; and if not, by the next earliest conveyance" (*Chitty*, 337). Each party has a day for giving notice, and "he will be entitled to the whole day, though the post by which he is to send it goes out within the day, and though there be no post the succeeding day for the place to which he is to send. Therefore, where the notice is to be sent by the post, it will be sufficient if it be sent by the post of the following day, or if there be no post on the following day, on the day after" (*Bayley*, 270). Sunday is not counted a day in notices; and the person who receives one on that day is in the same situation as if he received it on Monday. Days set apart by the religion of the individual to be kept holy, seem generally to be held equivalent to Sunday. Bills, the term of payment of which would happen on Sunday, Good Friday, or Christmas-day, are payable on the previous day. [GRACE DAYS OF.] By 7 & 8 Geo. IV. c. 15, when a bill becomes payable on the day before Good Friday or Christmas-day, it is unnecessary to give notice until the day after such Good Friday or Christmas-day; and when Christmas occurs on Monday, notice of a bill,

on Saturday, need not be given till Tuesday. By § 2 the same rules are made applicable to days of fasting appointed by royal proclamation. These provisions extend to Scotland. In England, by 3 & 4 Anne, c. 9, § 5, to obtain remedy and bills for *costs, damages, and interest*, a protest must be taken and notice of it within fourteen days. In extending a similar provision to Scotland, by 1707, c. 72, § 41, the terms used were of such a general nature, that the courts decided that notice of dishonour on inland bills may be sent at any time within fourteen days, to preserve recourse. Bills between Scotland and England are considered inland bills in as far as respects this act. It seems not to be settled whether the notice ought to be received, or must only be despatched within fourteen days.—(*Bell's Com.*, i. 419.)

Notice to give immediate notice may be excused by the circumstances. The absence of the drawer from his usual place of business and residence, and the sudden absence of the holder, may constitute an excuse; but the absence of the holder, in consequence of the sudden death of a near relative, is no excuse. A holder can be called upon to use due diligence to discover the party, and if there is any diligent search, notice, without undue delay after discovery has been made, suffices. Care must be taken to provide for the notice reaching the proper person. If the holder knows the particular address of the drawer in a large town, where a bill is not likely to reach him without that address, it should be given in full; if the address cannot be ascertained, or the party is distinguishable by his name and the town in which he lives, notice addressed in such form will suffice.

If the party is a bankrupt in England or sequestrated in Scotland, the notice must be given to his assignee or trustee. Notice to a company through one of its partners suffices. When a bill has been drawn by a firm upon one of its members, it is unnecessary to give notice of dishonour to the firm. If the holder of a bill, and send notice of non-payment to the drawer, he will not require to send notice on expiry of the time without payment. An agent employed to take a bill is responsible to his employer for neglect of notice. Notice may be received by the party entitled to it. Payment of a part, promise to pay or tender, a promise "to set the matter to rights," &c. have been held to amount to a waiver. If a person has made a promise to pay, without having had notice, he is now held as a waiver of that notice, though he made the promise in ignorance of the right to found on want of notice, provided there is no fraud in the case. In promissory notes, the only parties to receive notice are indorsers.—(*Bayley on B.*, 3. *Chitty on B.*, 9th edition, 327-343, 433-506.)

NOVA SCOTIA, a province of British America, consisting of a peninsula of a triangular shape, connected with New Brunswick by the narrow Isthmus of Chignecto, and lying between lat. 43° 20' and 46° N., and long. 61° and 66° 20' W. 15,617 sq. miles. Population, in 1838, 154,991, mostly of British origin, but including likewise a number of settlers of French descent, called Acadians, some Indians, and a few aborigines. The administration is vested in a lieutenant-governor and a council of 12 members appointed by the crown, and a house of assembly of 20 members, elected by 40s. freeholders.

The aspect of the shores is bleak, and in many parts rugged. The surface of the interior consists of bold undulations, but there is no considerable elevation, the highest land (Ardoise near Windsor) being only 810 feet above the sea. A considerable portion is occupied by water, and the soil is not generally fertile, though there are some rich tracts on the banks of the rivers and at the heads of the bays. The finest districts are Annapolis and the other counties bordering the Bay of Fundy, the most productive and best settled portion being the country bordering the Minas Basin; but the most important part is the district of Halifax, the capital, on the opposite side, which communicates with the preceding by a canal and the river Shubenacadie. The climate is mild and salubrious; oats, rye, and barley, are the principal objects of cultivation; wheat is also raised in choice situations, though not in quantities sufficient for the consumption; and there are numerous orchards; but grazing is the chief branch of agricultural industry, and for which, indeed, the province is best adapted from its hilly surface and copious irrigation.

A large portion of the country, however, is still covered with forests, which, under the influence of the discriminating duties imposed by the mother-country in favour of colonial produce, are, as in New Brunswick and Canada, the industry of a considerable portion of the inhabitants being directed to the timber-trade. The wood is shipped mostly in the form of deals, planks, boards, planks, shingles, and staves, to convert it into which affords employment, as in other provinces, to numerous saw-mills. The cod-fishery is also prosecuted extensively by the inhabitants. Another important branch of industry is that of mining. Coal and iron are abundant, and the former is pretty extensively worked at Pictou. Gypsum abounds in the western part; and the "Nova Scotia blue grits," or grindstones, are celebrated all over America. The situation of the province is advantageous, and its trade is steadily on the increase. The exports in 1834 and 1837 amounted respectively to £404,647 and £478,461. The latter was made up of, £181,961, chiefly dry cod, but embracing likewise a considerable quantity of salmon, herring, and herrings; wood and lumber, £143,736; coals, 31,472 tons, value £26,894; train oil, 333 gallons, £90,377; gypsum manure, 22,326 tons, £6738; grindstones, £12,085; the

other articles consisting of cattle, seal-skins, furs, beef and pork, and reshipments of tropical produce. They are sent mostly to the West Indies, United States, and Britain. The imports in 1834 and 1837 amounted respectively to £703,917 and £790,765; mainly composed of wheat and flour from the United States and Germany, British manufactures, and West India produce. The preceding valuations, it has to be observed, do not include the trade with the adjoining states of British America. About 4000 vessels, having a tonnage of 330,000, arrive annually; and there are about 100,000 tons of shipping belonging to the province.

Ports.—Halifax, the chief port and capital, is situated on the S.E. side, in lat. 44° 30' N. and long. 63° 37' W.; pop. 20,000. Being directly open to the Atlantic, and its navigation scarcely ever interrupted by ice, it is our chief naval station in N. America, and affords secure anchorage for 1000 ships. It is entered by a creek 16 miles long, which terminates in a sheet of water called Bedford Basin, and is every where strongly fortified. Pictou, the port next in consequence, is situated on the N. coast; it carries on a considerable trade in lumber and coal. Both are free warehousing ports. The other places frequented by shipping are Yarmouth, Liverpool, Lunenburg, Windsor, Parrsborough, Cumberland, Shelburne, and Digby.

Money, Duties, &c.—Accounts are kept in pounds, shillings, and pence sterling; in the same denominations in a nominal currency explained in the article CANADA; or in dollars and cents. The circulating medium is composed partly of British and American coins, and partly of notes issued by the Treasury, and by a branch of the Bank of British America and several local ones. The provincial revenue (exclusive of local assessments) amounts annually to about £60,000, derived principally from excise and customs: both are moderate,—the general rate of import duty on British manufactures being 2½ per cent. The crown duties, levied only on foreign goods, are explained in the article COLONY.

CAPE BRETON ISLAND, a dependency of Nova Scotia, is separated from it on the N.E. coast by the Gut of Cansau. Area 3000 sq. miles. Pop. 30,000. It is penetrated by a mediterranean sea, called the Bras d'Or, which divides it nearly into two parts. The settlements are confined to the shores. In 1837, the amount of the exports was £41,337, and of the imports £7591. The chief ports are Arichat, on the islet of Madame, on the S. side, from whence there are exports of dry and pickled fish; and Sydney, the capital, on the N.E., which carries on a considerable trade in coals, mines of which exist in the neighbourhood, as well as at Bridgeport. All the mines in Cape Breton Island, with those in Nova Scotia, are let to the General Mining Association.

NUTMEG (Du. *Muskaatnooten*. Fr. *Noix muscades*. Ger. *Muskatennuss*), a spice yielded by the fruit of a tree (*Myristica moschata*) indigenous to the Molucca Islands, which begins to bear when 10 years old, and goes on improving during the space of a century. The fruit, which is singularly beautiful, is pear-shaped, about the size of an apricot. As it ripens, the rind, which is nearly half an inch thick, and of a whitish colour, opens and displays the nutmeg in its black and shining shell, encircled by a net-work of scarlet MACE. It is gathered three times a-year. In preparing it for use, the mace is first stripped off, and the nutmeg, after being dried, is deprived of its shell, and soaked in sea-water and lime, in order to preserve it from insects, and, by closing its pores, to prevent its strength from evaporating. Three sorts are distinguished; namely, the male or barren, the royal, and the queen. The last, which are small and round, are preferred to the others, which are large and oval. Nutmegs are solid, unctuous to the feel, of a gray-brown colour, reticularly furrowed on the outside, and within yellow, variegated with brown undulating lines; odour fragrant and balsamic; taste warm and aromatic. They should be rejected when worm-eaten, light (from the oil being expressed), musty, or variegated with black lines. The active part, however, is confined to the dark-coloured veins, which are not apt to be worm-eaten. Dry lime forms the best kind of package for this spice.

The Dutch East India Company possess a monopoly of the spices of the Moluccas; and by their avaricious policy, the cultivation of the nutmeg-tree is confined to Banda-Neira, Way, Run, and Gounong. In all the others it has been carefully extirpated, because, being at a distance from the seat of government, they were supposed to afford better opportunities for smuggling. The tree has been introduced into Sumatra, Mauritius, and other parts of the East; attempts have also been made to introduce it into Cayenne and Trinidad; but the greater expense attending its cultivation in these places has hitherto prevented any reduction of the monopoly prices charged by the Dutch. About 120,000 lbs. are annually entered for consumption in the United Kingdom.

OIL OF NUTMEG.—This spice contains a fixed or solid oil, and a volatile oil; both of which are used for medical purposes. Of the former there are two varieties: the English, which is the best, occurs in pieces of about ½ lb. in weight, wrapped in leaves of the banana; it has a uniform reddish yellow colour inside: and the Dutch, in larger pieces, wrapped in leaves or paper, and of a lighter colour. All kinds are frequently adulterated.

NUTRIA, OR NEUTRIA, an aquatic rodent little quadruped (*Myopotamus coypus*), inhabiting S. America, especially Chili, Buenos Ayres, and Tucuman; it is valued on account of its fur, which, like that of the beaver, is of two kinds,—the long ruddy hair, and the brownish ash-coloured fur at its base. The latter is now largely used in the hat manufacture; and about 220,000 skins are

for this purpose annually imported into the United Kingdom from the States of La Plata.

NUTS, HAZEL (Fr. *Norsettes*, *Avelines*. It. *Naccinole*, *Avelane*. Sp. *Avellanas*), produced by different species of *coryli* or hazel-trees [FILBERT]. They are common in this country, but the best are brought from the S. of Europe, principally Spain. About 150,000 bushels are annually imported.

NUX VOMICA, the fruit of the *Strychnos nux vomica*, a tree indigenous to Malabar, Coromandel, and Ceylon. When ripe, it is about the size of an apple, is covered with a shell of an orange colour, and contains a pulp in which from three to five seeds are immersed. These seeds are round, flattish, and about $\frac{3}{4}$ inch in diameter, have a weak nauseous balsamic smell, an intense bitter taste, and contain a virulent poison. They are used in medicine, and have, it is said, been employed in brewing porter, though their use for the latter purpose is prohibited by statute.

O.

OAK (Fr. *Chêne*. Ger. *Eiche*. It. *Quercia*. Por. & Sp. *Roble*), a genus of trees (*Quercus*) embracing about 150 species, two of which, common in our forests, excel all the others in the production of timber. The common British oak (*Q. pedunculata*), "the father of ships," that which chiefly abounds in our island and the N. of Europe, is distinguished by having the acorns on footstalks: the sessile-cupped oak (*Q. Sessiliflora*) bears the acorns without footstalks, but has the leaf-stalks longer than the other; it is found chiefly in the W. of England, N. Wales, and the S. of Europe. The best oak is said to be that which grows in cold or elevated situations (if not stunted), on stiff, clayey soils, and is the longest in arriving at maturity. The common species is of slower growth than the sessile-cupped, and is commonly preferred to it; but there is great difference of opinion as to which is really the best; much seems to depend on the soil and health of the individual tree.

The "unwedgeable and gnarled oak," when cut down at a proper age (about 60 years) is superior to all other timber in point of strength, durability, and general application. It is eminently adapted for shipbuilding, particularly war-vessels, from its not splintering by shot. It is not grown in this country sufficient for the consumption; and large quantities are imported, especially from Prussia and Canada. The kinds principally used in the Royal Dock Yards are Welsh, Sussex, and Baltic,—the last being the most esteemed of the foreign kinds: the Adriatic, formerly much used, has turned out ill. In domestic architecture oak is only used in the largest and best buildings; occasionally for the principal beams; but its chief use is for door and window frames, sills, sleepers, king-posts of roofs, trussing for girders, sashes, gates of canal-locks, sluices, posts, and piles.

The white oak (*Q. alba*) of the United States is the kind chiefly used there for shipbuilding, houses, and liquor-casks; it is also imported into Britain. But the live oak (*Q. virens*), abundant in Texas, is the best American species. "African oak," sometimes used in shipbuilding in this country, is wood of a different genus.

OAKUM, old ropes pulled loose in order to be used in the caulking of ships.

OATH. [AFFIDAVIT.]

OATS (Dan. *Havre*. Du. *Haver*. Fr. *Avoine*. Ger. *Hafer*. It. *Vena*. Por. *Aves*. Rus. *Oves*. Sp. *Avena*. Sw. *Hafre*), the hardiest of all the cereal grains cultivated in Britain. Of the common species (*Avena sativa*) there are several varieties, as black, gray, dun brown or red, and white. The two first being the hardiest, are cultivated in Highland districts and on inferior soils in Scotland; but in England the black oat is now scarcely known, and the dun or red oat is nearly confined to the moors of Cheshire, Derbyshire, and Staffordshire; in Ireland, the black oat is the favourite kind in mountainous districts. The white oats, though less hardy and requiring a better soil, are yet earlier and heavier than the others, and are generally preferred, especially the subvariety called the potato oat, now almost the only kind cultivated on good land in England, the Scottish Lowlands, and Ireland. The seed-time of oats is March and April; four to six bushels are sown on an acre; and the produce varies, according to soil and preparation, from about 30 to 70 bushels per acre. They weigh from 35 to 45 lbs. a-bushel; yielding about 8 lbs. meal for 14 lbs. corn. Drought and heat are unfavourable to this grain, rendering it husky and tasteless. The nutritive quality of oats is smaller in a given weight than that of any other of the cerealia; but they are admirably adapted for the feeding of horses, the purpose to which they are principally applied; though, when ground into meal, they are also largely consumed as food by a great

portion of the population of Scotland, the N. of England, and Ireland. The best oats are those of Scotland and Friesland in Holland. [COAR.]

OCHRE, a native earthy mixture of alumina, silica, oxide of iron, and other substances, found in beds in various places, particularly in England at Shotover Hill near Oxford, and in Italy. It is generally of a yellow or brown colour, but is sometimes reddened by calcination. It is prepared for use by grinding and elubriation; and is employed as an ingredient in painters' colours, and in the polishing of metals and stones. Nearly 5000 cwts. are annually imported.

OIL, a substance expressed or distilled from certain vegetable and animal matters, the distinctive characters of which are inflammability, insolubility in water, and (except palm oil and a very few others) fluidity in moderate temperatures. Oils are either *fixed* or *volatile*.

FIXED OILS.—*Vegetable fixed oils* are usually contained in the seeds of plants; though olive oil is extracted from the pulp which surrounds the stone. They are procured by bruising the seed, and subjecting the pulpy matter to pressure in hempen bags, a gentle heat being generally employed at the same time to render the oil more liquid. They are commonly of a thickish consistence and unctuous feel, and differ from volatile oils in leaving a greasy stain on paper which cannot be removed by heat alone. They are sometimes colourless, occasionally of a greenish or yellowish hue, when pure semitransparent, with little smell, and a mild taste. They are insoluble in alcohol, and their specific gravity varies from .90 to .96. When kept for some time they become rancid; and, when exposed to air, gradually increase in consistence, till at last they become solid. Those which retain their transparency after they have become solid,—as linseed, nut, poppy, and hempseed,—are called *drying oils*; while others which assume the appearance of tallow or wax, and become opaque,—as olive, almond, rape, and ben,—are called *fat oils*. The former are mostly used for paints, varnishes, and printers' ink; the latter are consumed as food, in medicine, soap-making, and other branches; several of each kind being likewise extensively employed in the arts, and in the lubrication of machinery.

Animal oils, derived from the fatty matter of the whale, cod, seal, and others, are very analogous in composition and properties to the vegetable fixed oils; and in Britain, where the latter are comparatively expensive, the former are employed, both for the purpose of giving light and for the manufacture of soap.

VOLATILE OR ESSENTIAL OIL occurs in all odoriferous plants. It is found in all parts of them, and sometimes different in different parts of the same plant. It is the odoriferous principle of vegetables; but its quantity is not always in proportion to their degree of smell; nor is its degree of pungency and acrimony by any means in proportion to those of the subject from which it is drawn. The volatile oils are generally obtained by distilling the parts of the plants which afford them with water in common stills; a few are, however, obtained by expression, such as those of lemon, orange, and bergamot, which are contained in distinct vesicles of the rind of those fruits. They vary considerably in specific gravity. Oil of turpentine, the lightest, is .792; oil of masshea, the heaviest, 1.094. They are very numerous. The principal are, turpentine, clove, cinnamon, caraway, juniper, nutmeg, rosemary, and sassafras. Their general characteristics are,—a penetrating odour and taste, and commonly a yellowish colour; they are for the most part soluble in alcohol, and very sparingly soluble in water. These solutions constitute *perfumed essences* and *distilled waters*; the former principally employed in perfumery, the latter in pharmacy. The high-priced kinds are not unfrequently adulterated with alcohol and fixed oils. The former addition is rendered evident by the action of water; the latter by the greasy spot which they leave on paper, and which does not evaporate when gently heated. The oils of commercial importance are treated separately under their appropriate heads.

The customhouse practice is not to gauge oils paying duty by the tun, but to weigh them, reckoning every 9 lbs. of net weight equal to an imperial gallon.

OKÉ, a Turkish weight equivalent to 2½ lbs. avoirdupois nearly.

OLDENBURG, a German state composed of the duchy of the same name, bordering on the N. Sea, and on the land side contiguous to Hanover, Bremen, and the Weser; and the small principalities of Lubec and Birkenfeld. Total area 2410 sq. miles. Pop. 269,000. Government monarchical, without any assembly of estates.

The country is level, and the soil in general poor. Agriculture and cattle-rearing are the chief occupations of the people. Exports, oxen, horses, linen, leather, beer, hides, rags, &c., chiefly to Holland and the Hanse Towns, especially Bremen. In 1836, Oldenburg joined in a commercial league with Hanover and Brunswick. [BREMEN. GERMANY. PRUSSO-GERMAN CUSTOMS UNION.]

OLIBANUM OR FRANKINCENSE (Fr. *Encens*. Ger. *Weihrauch*. It. *Incenso*), a gum-resin procured from a plant (*Boswellia Thurifera*, Roxb.) found in the mountainous parts of India. Two qualities are distinguished: olibanum in grains, and common olibanum. The first occurs in small roundish pieces of a light yellowish colour, very brittle, and semi-transparent; taste acrid and slightly bitter. The second is in larger pieces, mostly of a dark colour, and mixed with impurities. The odour of olibanum is balsamic, and it burns with a clear light, diffusing a fragrant smoke. It is used principally as incense in Roman Catholic churches, and, though rarely, in medicine.

An Arabian kind of olibanum, formerly imported from the Levant, is now seldom met with, and its origin is a matter of doubt. In America, various trees yield substances analogous to olibanum, and used in a similar way.

OLE, the fruit of a tree (*Olea Europæa*), a native of the south of Europe and Africa, and extensively cultivated in France, Spain, and especially Italy.

small, green, oval berry, containing a double-celled nut. Olives, when ripe, have a harsh, bitter, and extremely disagreeable taste; and they are eaten raw or having been steeped for several days in a ley of wood-ashes, and then in a strong solution of muriate of soda. Flavoured with some spice, they are occasionally used after dinner in Britain, but more abundantly on the Continent to improve the flavour of certain wines. Olives are principally imported into this country from France, in barrels of 28 gallons, and from Spain, in jars of two bushels. An allowance of $\frac{1}{2}$ to $\frac{3}{4}$ is made at our custom-house for pickle. This is, however, chiefly valued for the oil obtained from it.

The natural wood of the olive is hard, compact, and reddish in colour. It takes a fine polish, and is made into snuff-boxes and trinkets.

OLIVE OIL (Fr. *Huile d'olives*. Ger. *Baumöl*. It. *Olio d'uliva*. Por. *Oleo de aceitunas*. Sp. *Aceite de aceitunas*), the lightest of the fixed oils, is derived from the fruit on its arriving at maturity in November. The olives are first pressed in a mill, care being taken that the millstones are so placed that they do not break the nuts. The mass being then put into bags, and subjected to great pressure in a screw-press, yields a considerable quantity of *virgin oil*, of the best quality. After this is completely expressed, the mass, stones and all, is returned to the mill, and the stones are broken, or the same effect is produced by running up the whole with boiling water, and increasing the power of the press. This means the common kind of oil is obtained; while, by repetition of the process, an inferior sort is procured, valuable for the preparation of soap. Virgin oil has a very pale yellowish-green colour; inodorous when fresh, but emitting a rancid smell when old; taste bland and purely oily, but becoming in time rancid: it congeals at 38° Fahrenheit. Sp. gr. .915. The common kind is brownish-yellow or greenish colour, and a taste or odour in a greater or less degree rancid. Olive oil, being high priced, is frequently adulterated with various kinds; but the fraud is known by a less tendency to congeal by reduction of temperature. This oil, in the countries of production, is an important article of commerce to all classes; and it is also employed to burn in lamps. In our country, it is used almost solely in cookery and for salads as a luxury; but considerable quantities are employed in the making of fine soap, in the woollen manufacture and in other arts. In medicine, it is used as an emollient, and to form cerates and ointments.

Olive oil is prepared in immense quantities in Italy, especially in the provinces of Liguria and Calabria in Naples, the produce of which is largely exported from Genoa, the principal oil-mart of the peninsula: this kind is of fine quality, a superiority partly due to the influence of the tufa cisterns in which the oil is purified before being shipped. The Florence and Lucca oil shipped from those places is likewise in high esteem. The Sicilian kind is generally of low value. Olive oil is so largely produced for exportation in Spain. In France, the best is made in the provinces of Languedoc and Provence, the finest being that of Aix. About 100,000 gallons are annually imported into this country for consumption, chiefly from Italy and Spain, and in smaller quantities from Portugal, the Ionian Islands, Barbary, and France.

Customs tare, when imported in jars, is $\frac{1}{2}$ for each jar, and $\frac{1}{4}$ for foot or sediment; a cask contains 60 flasks = 2½ Imperial gallons. [OIL.]

ONION (Fr. *Oignon*. Ger. *Zwiebel*. Por. *Cebola*. Sp. *Cebolla*), a well-known bulbous plant (*Allium cepa*), having a bulbous root varying in size according to the soil, and cultivation. The small are more pungent than the large; and those which have a tinge of red or purple, than those which are white. The "Red Burgundy" and its varieties are the hardiest in this country. But our onions are surpassed by those imported from Portugal, Spain, and the south of France, which are much larger, and more mild and succulent. Onion seed is also imported in considerable quantities.

OPAL, a species of agate, in which the siliceous particles are arranged in alternating horizontal layers of opaque white and translucent blue gray or brown. It is employed for cameos, the figure being cut out of the opaque white, and the dark remaining the ground, or the contrary. It is most valuable when the contrast of colours is strong, and when the layer is thick enough to give a high relief to the design to be engraved.

OPAL, a beautiful precious stone, of which there are many varieties. Sp. gr. 2.2. The most valuable is the *noble* or *precious opal*, of a white, bluish, or yellowish

lowish white colour, and when viewed by transmitted light, yellow. It exhibits brilliant and changeable reflections of green, blue, yellow, and red,—a play of colours which has not been satisfactorily explained. It is translucent; fracture conchoidal; with a resinous lustre; easily broken, but scratches glass. Its chief localities are, Czerventza in Hungary, the Faroes, Saxony, and at Gracias a Dios in Honduras, whence it has been brought in specimens of considerable size and of great splendour. This kind of opal is sometimes called the *Nonnius opal*, from the senator Nonnius, possessor of the famous opal of Rome, worth 20,000 sesterces, who preferred banishment to parting with it to Antony.

The common opal differs from the precious chiefly in wanting the play of colours: it is found at the Giant's Causeway and the Hebrides. A variety has been met with in India; and Mr Milburn states, that a beautiful Oriental opal is worth double the price of a sapphire of the same size. They occur from the size of a pin-head to that of a walnut; but a fine stone of this last size is extremely rare and precious. Much care is necessary in purchasing them, as there are many counterfeits.

OPIUM (Fr. *Opium*. Ger. *Mohnsaft*. It. *Opio*. Arab. *Mal. Ufyoon*. Pers. *Sheerikhaskash*. Hind. *Ufeem*. Turk. *Madjoun*), a narcotic drug, composed of the inspissated juice of the unripe capsules or fruit of a species of poppy (*Papaver somniferum*) extensively cultivated in Asia; also to some extent in European countries, principally for the oil of its seeds. The juice is collected in a pot, and worked into masses or cakes, which are covered with leaves, to prevent their sticking together, and then dried and packed into chests. Two kinds are chiefly distinguished,—Turkey and East India.

Turkey or Smyrna opium, so called from the place of shipment, is compact; at first, softish and reddish brown, but becomes hard and blackish; lustre waxy; smell heavy and disagreeable; taste at first nauseous bitter, afterwards acrid, and rather warm; highly inflammable; and when good, not entirely soluble in water. Sp. gr. 1.336. The best is in flat pieces, enveloped in large leaves, and, besides, covered with the reddish capsules of a species of *rumex*. Other varieties occur in the Levant trade, as "Constantinople opium," mostly sent to Germany, "Egyptian opium," and "Trebizond opium;" but they are inferior, and not so commonly the subject of British commerce.

East India opium is less compact and softer than Turkey; also darker, fainter in odour, less bitter, and more nauseous and weaker; containing less morphia. But this inferiority is fast disappearing; and, of late, that manufactured in some districts is of the finest quality. It is produced almost exclusively within the Bengal presidency, and in Malwa in Central India. In the former, the cultivation of the poppy is confined to certain districts within Benares, and in Bahar near Patna, in order to secure the monopoly of the Company, who purchase the crop from the ryots, at the price of 1½ rupee per pound, and afterwards dispose of it at stated public sales in Calcutta. At the sale of February 1840, the upset price was Rs. 40 per chest (of 2 factory mannds, or 149½ lbs. avoird.) ; but the rate paid at different times is of course subject to variation. In Malwa, which belongs to native rajahs, the trade is free. The Company made great exertions to procure the whole of it by treaty; but, in 1830, they relinquished this object, and agreed, for a transit duty of Rs. 125 per chest, to grant passes for its conveyance to Bombay, from whence this kind is wholly exported.

Opium is chiefly employed with us as a sedative medicine. But as the drug, when taken in small doses by those unaccustomed to it, communicates a peculiar kind of exhilaration and energy to the mind, as well as a pleasurable condition to the whole system, accompanied with increased capability of exertion, it is largely consumed in the East in much the same way as wine and spirits are taken in Europe. By degrees, as the habit becomes confirmed, the craving increases, and to produce the desired feeling, the dose must constantly be augmented, till at length,—each excess being followed by depression and torpor,—equal injury is produced as by habitual dram-drinking. In Turkey and Persia opium-eating, once very common, is on the decline, owing to the less rigid observance of Mohammed's injunctions against inebriating liquors; but in China the use of it is on the increase. In the last country, however, it is smoked, a custom less pernicious than eating, owing to the preparation which the drug has to undergo before being fitted for the pipe. Indeed, taken in moderation in this way, it is said to have no bad consequences; and in regard to China, it may be observed, that opium debauchees do not appear to be more common there than drunkards in other countries.

The drug was formerly imported into Britain solely from the Levant, but, owing to the improved quality of the Indian produce, a portion of our supply is now manu-

up of the latter. The amount of foreign and Indian opium entered for consumption in 1840 was 46,736 lbs., having nearly doubled within 10 years. This trade, however, is insignificant when compared with that which has grown up between India and China. Before 1800, the quantity sent to the latter was inconsiderable; and in the year 1817-18 did not exceed 2,435 chests, in value \$2,951,100; but in 1832-33 it was augmented to 23,693 chests; namely, 6,410 Bahar or Patna; 1,800 Benares; and 15,403 Malwa; the total value being \$15,352,429, or (estimating the dollar at 4s. 2d.) £3,198,422: So that in 15 years the quantity had increased about tenfold, and the value between five and six fold; the average price, meanwhile, having declined from \$1,212 to \$647 per chest, nearly one-half. This was exclusive of about 1000 chests Turkey opium, re-exported from Britain to China. The trade has since been further extended. In 1837-38 the quantity of Bahar and Benares opium exported was 19,307 chests, valued (in Calcutta) at £2,114,025; and nearly the same amount was fixed for exposure at the government sales in 1840. Of Malwa, passes were granted in the three years ending 1837-38 for 45,317 chests, or, on an average, 15,106 a-year. Hence, the total annual export from India, when war broke out in 1839, must have been about 35,000 chests, in value nearly £4,000,000; which, excepting small parcels sent to the Malay Peninsula, Eastern Islands, and England, was shipped wholly to China. The net revenue derived from the monopoly in Bahar and Benares in the three years ending 1839, was Rs.3,46,96,196; and for transit passes from Malwa to Bombay, Rs.60,49,230; total, Rs.4,07,45,426. (*Par. Paper*, 1841, No. 22.) This gives, on an average, the net yearly revenue of the Company from the drug Rs.1,35,81,808, equal £1,273,296 sterling.

The opium-trade, though forbidden so early as 1796, attracted little notice from the Chinese government before 1820. Macao was for some time its centre; but, owing to the misconduct of the Portuguese, it was removed to the small island of Lintin, in the estuary of the Canton river. There, notwithstanding many "paper prohibitions," it was conducted with regularity, under the immediate notice of the imperial functionaries,—who, indeed, are the chief opium-smokers,—until the arrival of Commissioner Lin at Canton in 1839, when the British superintendent, Captain Elliot, and a number of merchants were seized (April 15), and retained until the delivery (May 30) of the stock then on hand, 20,283 chests, valued at £3,000,000. Since this atrocity, the trade has been pursued in a more irregular manner; mostly indeed by armed clippers, who, braving every danger, beat up the China seas even in the very height of the monsoon, and, wandering along the coast, dispose of their cargoes to junks, who bring out dollars and sycee silver in exchange. The quantity thus sold is said to be nearly as great as ever,—a circumstance which can occasion little surprise when it is considered that, besides the weakness and corruption of the imperial government, the drug, while its produce-cost in India is under Rs.400 a-chest, finds a market in China, notwithstanding a late reduction of price, at from \$400 to \$500.

The motive usually assigned for the prohibition of this traffic is the demoralizing tendency of opium. "If there exist a drug destructive of life, incessant efforts should be made to keep it at a distance. The men accustomed to it can by no means relinquish it; their faces become as sharp as sparrows'; and their heads, sunk between the shoulders in the form of a dove; the poison flows into their inmost vitals; physic cannot cure their disease; repentance comes too late for reform." Yet the poppy is cultivated in China in six different provinces, in one of which the opium prepared is said annually to amount to several thousand chests. Without resting upon this, however, it is quite certain that the moral reason is not the only one. Formerly a large proportion of the British imports of tea were paid for in bullion; but since the expansion of the opium-trade, the balance has been reversed, and there is now a constant drain of treasure from China. The imperial government, viewing the precious metals as the only true riches of a state, regard this as a national grievance; and the trade is accordingly denounced, in their state papers, as one which occasions "an oozing out of silver, whereby the fathomless gulf of the outer sea will soon be the receptacle of the easily exhaustible wealth of the central spring!" Nor, in looking to the influences which have guided the Chinese, is it to be forgotten, that their increased rigour and jealousy has been contemporaneous with the advance of the British to their south-west frontier and the regions of Central Asia.

OPOBALSAM, called also Balm of Gilead and Judiacum de Mecca, is a liquid resin, obtained from the *Amyris Gileadensis*, a tree found in Arabia, Abyssinia, and Syria. It is at first turbid and white; of a pungent smell, resembling turpentine, but sweeter; and of a bitter, acrid, astringent taste: By age it becomes

thin, limpid, of a greenish hue, then of a golden yellow, and at length of the colour of honey. It is seldom obtained genuine in Europe; the Canada balsam, which is generally substituted for it, answering equally well. In Turkey it is used as a cosmetic. *Carpobalsamum* and *Xylobalsamum* are inferior qualities obtained from the fruit and twigs of the same tree.

OPOPONAX (Arab. *Jakesheer*), a medicinal gum-resin, obtained from the stalk or resin of a tall plant (*Opoponax Chironium*, Koch) found in Asia Minor. It occurs in small grains or drops, and in masses,—the latter, however, being generally mixed with foreign substances, and inferior; colour internally, pale yellow, frequently mixed with white, and externally, inclining to red or orange; taste bitter acrid; and odour disagreeable. It is now scarcely used.

ORANGES (Fr. *Oranges*. Ger. *Pomeranzen*. It. *Melanarincino*. Por. *Laranja*. Sp. *Naranjas*), are the product of a shrubby tree, of eastern and tropical origin, but now extensively cultivated in the warmer parts of the temperate zone, particularly in the countries adjoining the Mediterranean, Portugal, and the Azores. It belongs to the citron genus. Two species are principally distinguished,—the sweet and the bitter.

The **SWEET ORANGE** (*Citrus Aurantium*): flowers, white; fruit, roundish, seldom pointed, golden-yellow, or tawny; and pulp very sweet. There are many varieties. Those principally met with in Britain are the St Michael's, a small pale-yellow kind, with a thin rind, brought from the Azores; and the China, chiefly imported from Portugal. The former is the most esteemed.

The **BIGARADE, OR BITTER ORANGE** (*C. Bigaradia*): flowers also white, but larger and sweeter than the preceding, on which account they are in demand by the perfumer; fruit, uneven, globose, deep-yellow, with a bitter and acid pulp. The Seville, a Spanish variety, is that chiefly imported into Britain, where it is consumed in the preparation of candied orange-peel, bitter tinctures, and liquors.

The orange has been well called "the universal fruit of commerce." The aromatic oil and the rind preserve it from the effects both of heat and of cold: while the acridity of the former renders it proof against the attacks of insects. It is thus long in rotting if the rind is uninjured, and it is kept from moisture, and so ventilated as not to ferment. From these qualities, joined to their abundance in the countries of production, oranges may be had fresh and cheap in every region of the world, and at almost every season. They are gathered for exportation in October, November, and December, while still green, that they may not spoil in the transport; and they are not fully ripe till spring has commenced. They are imported into Britain from the Azores and Portugal; Spain, especially Algarve and Andalusia; and the Gulf of Genoa and Naples; the amount in 1840, including lemons (not separated in the public accounts), being 119,915 packages, each not exceeding 5000 cubic inches; 167,574 packages between 5000 and 7300 cubic inches; and 44,674 between 7300 and 14,000 cubic inches; besides about 12,000 lbs. of orange-flower water, and considerable quantities of oils and essences.

ORCHILL, OR ARCHILL (Fr. *Orseille*. Ger. *Orselje*. It. *Oricella*. Sp. *Orchilla*), a whitish lichen (*Lichen orcella*) found in Guernsey and Portland Island, but chiefly obtained from the Canary, Cape Verde, and Madeira Islands. It grows on rocks, about 3 inches in length, roundish, and many stalks proceed from one root. The best is of a darkish colour. It is imported into Britain in the state in which it is gathered; and about 500 cwts. are annually entered for consumption. This weed yields a rich purple tincture, used chiefly in dyeing silks and ribbons, but rarely employed alone, on account of the fugitive nature of the colour, and its extreme dearth. **LITMUS** is a preparation of orchill in square cakes.

ORGOL, OR ARGOL, a common name for crude **TARTAR**.

ORPIMENT (Ger. *Opferment*, *Rauschgelb*), or yellow sulphuret of arsenic, generally occurs massive and lamellar, of a bright lemon or golden colour, sometimes running into red or brown; soft and flexible, but not elastic; insoluble in water; and inodorous. Sp. gr. 3.5. It is a natural product of China, South America, and other countries. The finest, called golden orpiment, comes from Persia. Artificial orpiment is manufactured chiefly in Saxony; it occurs in the form of a yellow powder. This substance is commonly employed in dyeing and calico printing; but the finer native varieties are reserved for artists. It is often adulterated with king's yellow, an ill-made poisonous compound, frequently containing nothing else than white arsenic and sulphur; it is quite soluble in water. The name red orpiment is sometimes given to **REALGAR**.

ORRIS ROOT, OR FLORENTINE ORRIS, is obtained from the *Iris Florentina*, a native of the south of Europe. It is tubercous, oblong, about an inch thick, white; odour like that of the violet; taste when dry bitter. The roots are imported from Leghorn; and, after being ground into powder, are used by perfumers, and in medicine.

ORSEDEW (Ger. *Flittergold*), an article resembling gold leaf, made of copper and zinc, chiefly at Mannheim, in Germany, whence it is called **MANHEIM GOLD**. It is largely imported into this country, made up in books, and enclosed in casks and cases. A part is entered for home consumption, chiefly in tinselling dolls and toys, but the greater portion is reshipped to the East Indies, where it is in demand by the natives for decking their gods, priests, and dancers.

OSTEOCOLLA, an inferior kind of glue, manufactured from bones.

OSTRICH FEATHERS, a valuable article of ornamental dress. The ostrich found only in Africa, and the best plumes are imported from Barbary. The best are the brilliant white feathers from the wings of the male, which, in a bird full plumage, contain forty.

OUNCE (*Uncia*, a twelfth part), is a common division of the pound weight.

OXALIC ACID (Ger. *Sauerkleesäure*), a vegetable acid found in considerable quantity in sorrel and rhubarb. It is most readily procured by the action of nitric acid on sugar, and hence has been termed acid of sugar. It occurs crystallized, in six-sided prisms, transparent, and so intensely sour, that if 1 grain be dissolved in 80 grains of water, it will be perceptible to the taste; while in 200,000 times its weight of water it may be detected by means of a simple chemical test. This acid is highly poisonous, and accidents have frequently occurred from its being administered instead of Epsom salts, which it resembles in appearance. It is used in dye-printing, and by straw-hatmakers; also for cleaning boot tops, and for removing iron stains and ink spots from cloth. United with bases, it forms salts, called oxalates, which are applied to various purposes. It is an object of considerable manufacture, especially in Switzerland, where it is prepared from the juice of wood sorrel.

OYSTER (Fr. *Huitre*), a testaceous fish (*Ostrea edulis*) common on the coasts of Britain and most other countries. Several kinds are highly prized by epicures. In London, the Colchester and Milton oysters are held in most esteem. Edinburgh is her "whiskered Pandores," and latterly Aberdour oysters; and Dublin the Wexford and Powldoodies of Burran. For the convenience of obtaining a ready supply, the oysters are often transported from their original beds, and laid down on other places of the coast; but these exiles are seldom found in such perfection as those. In France, the oysters of Cancale in Brittany, and of Dieppe, are most esteemed: the latter are of a greenish colour, communicated artificially.

The British trade in oysters ranks in importance with that in herrings and salmon, and affords employment to a numerous body of men, who necessarily become hardy seamen. In Jersey alone, 250 boats are employed, and 200,000 bushels annually exported. Immense quantities are carried to Billingsgate, where the season opens with great bustle on the 4th of August, at noon, and terminates on the 12th of May.

The private right in oyster-beds is protected in England by the act 7 & 8 Geo. IV. c. 29, § 36; in Scotland by 3 & 4 Vict. c. 74.

A convention between Britain and France, August 2, 1839, provides, that the subjects of each country shall enjoy the exclusive right of fishery within the distance of 3 geographical miles from the low-water mark along the whole of their respective coasts; it being understood, however (Art. 9), that upon that part of the coast of France which lies between Cape Carteret and Point Meung, the subjects of each country shall enjoy the exclusive right of all kinds of fishery within the limits assigned in Art. 1 (according to a chart), for the French oyster-fishery. With respect to bays, the mouths of which exceed 10 miles in width, the limiting 3 miles is to be measured from a straight line drawn from the headland to headland. The oyster-fishery beyond the above limits is to be common to the subjects of both countries.

P.

PADDEE, or **PADDY**, a term applied to rice in the husk.

PAGODA, the name of numerous gold coins in India. They mostly weigh at 52·85 troy grains, and contain 44·39 troy grains of pure metal, the standard of the Star pagoda, the former integer of account at Madras, and worth 7s. 10d.

'PAINTERS' COLOURS. [COLOUR TRADE.]

'PAKFONG, a celebrated Chinese alloy, composed of copper, nickel, and zinc.

'PALLADIUM, a rare metal obtained by Dr Wollaston from platinum ore. It is hard, of a dull white colour, malleable, and ductile; sp. gr. 11·3. Its properties are not yet fully known.

'PALM-OIL, a fatty substance, obtained chiefly from the drupes of the *Elais guineensis*, a species of palm common on the western shore of Africa. It has the consistence of honey or butter, a golden yellow colour, the smell of violets, and a sweetish taste. When spoiled it loses its yellow colour and pleasant smell; when well preserved it keeps several years without becoming rancid. Sp.

968. It is sometimes counterfeited with hog's lard, coloured with turmeric, and scented with Florentine iris root. Palm-oil is much used by the negroes for anointing the skin and in cooking. It is produced in abundance in the countries adjoining the Guinea coast, particularly near Eboe and Brass in the Delta of the river, where, according to Mr Laird, it can be bought for £4 or £5 a-tun. It

is obtained in granular form which is is crushed into trade-punchcoons. The quantity imported into America through duty-free entry in 1831, amounted in 1841 to about 100,000 lbs. of which 50,000 lbs. were entered for home consumption, chiefly for the manufacture of soap, perfume, and perfumery. It is also used in medicine and surgery. (NATIONAL UNION)

Small Italian silver coin, value 3d. sterling.

FBI STATES (FBI STATES)

PAPER. *See* **FR. & Ger. Paper.** **It. Carta.** **Sp. & Por. Papel.** **Rus. Bu-**
ma. **W. Paper.** **MAKING** **PAPERS** were formerly formed of palm-leaves, inner bark,
bark, waste rags, and particularly of Egyptian papyrus,—several of the leaves
or inner strata being generally sewed together and wound on a centre stick.
From these materials are now almost entirely superseded by paper made of vegetable
fibres, growing in water, &c. &c. This art is said to have originated in China
about 1000 years ago, and to have been known in the seventh century to the Arabians,
by whom it was carried in the ninth or tenth century to Spain; from whence, or,
as some suppose, by way of Greece, it was gradually diffused throughout Europe.
It was introduced into England in the sixteenth century; but scarcely any, except
writing-paper, was made before the Revolution, though the manufacture after-
wards increased so rapidly that by 1750 Britain was almost wholly independent
of foreign supply. The vegetable substance preferred is linen, owing to the tough-
ness and fineness of the fibre: the best kinds of linen cloth or rags [Rags] being used
for the manufacture of the fine quality: for printing-paper linen and cotton rags
are employed, and many kinds of coarse paper are made from hempen rags, cotton
waste, shives of flax-stems, and osage, and tarred ropes. Paper was entirely hand-
made till about 1800: but except some writing-paper, all kinds are now man-
ufactured by a machine, then introduced by Messrs Fourdrinier and Donkin,—a
machine which with the improvements since communicated to it by others—
has rendered the art of paper-making—now justly regarded as one of the most ingenious and
valuable in the whole range of mechanical invention.

MANUFACTURE.—The rags are first separated from threads and buttons, cut, assorted, baled and pressed. The threads, washed, then immersed in water, they are reduced by a chlorine solution to the pulp, and afterwards bleached by chlorine; next, the pulp is further treated and purified in a vat where the stercous matter is kept in suspension by agitation; and in the vat the pulp remains to exclude knots. It is received upon an endless web of wire-cloth, passing a roller as well as a pressure cylinder, so regulated as to spread the pulp evenly, and to draw off the water, and facilitate the draining of the water. The pulp, becoming soft as it passes, is then pressed through the rollers, by which it is compressed and still further spread, and then passing over heated rollers, it is dried; and, lastly, the finished paper is wound upon a reel as paper, a process which is finished after it is drawn from the vat. The paper is then cut by a machine into sheets and baled. The same takes the operations for printing and wrapping paper, which are distinguished by the addition of rosin and soda to the pulp-vat; but entirely different when the web is conducted from the heated rollers through a cylinder of iron, and which is pressed and dried, and then cut and calendered as before. The latter is also prepared more highly than other kinds, in order that the ink may be removed by soap and water.

These machines are fitted with a much blunter engine than that commonly used in the manufacture of machine-made paper in a wooden frame, with a wire-cloth braid. The sheets are then piled between sheets of felt and water-blashed out; the sheets are then piled between sheets of felt and water-blashed out; the sheets are then piled between sheets of felt and water-blashed out. By this careful process the sheets are preserved more entire in the braid. The machine-made paper in firmness and quality. The machine-made paper is of any desired breadth, is also adapted for paper-hangers and has the advantage of cheapness; while, owing to successive improvements in quality, nearly unperceptible.

After being manufactured, is examined to remove spots and stains, then pressed in a steam heated mangle of 24 sheets, and folded; and, lastly, packed in a box, and wrapped up in a wrapper for sale.

Of the *various* *papers* *and* *drawing* *papers*, besides the differences already noticed, the former exhibit a great variety of color, and are made of different materials; the former exhibit the most common colors, and are made of the same materials as the most common; while the latter are made of a very fine copper wire, and are of a very fine color. The color of the former is observable in writing paper; the yellowish color of the latter is imparted by the mixture of smalts with the paper. The colors of the former are independent of the sizes of writing paper are known, and are of a very fine color. The following is the usual range of sizes of papers:—

[illegible]

—*Double-headed*.—Double-headed, 25 inches by 17½; demy, 24 by 17½; royal, 22½ by 16½; crown, 24 by 17½; post and half, 24 by 16½.

er-making is carried on extensively in the United Kingdom, chiefly in Kent (chalky streams of which are said to be favourable to the manufacture), the neighbourhood of London, Lancashire, Yorkshire, and Durham; in the vicinities of Edinburgh and Glasgow; and in the "Collection" of Naas in Kildare; and the number of mills, in 1839, was 512; whereof 411 were in England, 47 in Scotland, and 14 in Ireland; each paying an annual license costing £4. An excise on paper first levied in Britain in 1711 (10 Anne, c. 19); which, after many fluctuations, was reduced, in 1803 (43 Geo. III. c. 69), at 3d. per lb. on first class paper, and 1½d. on second class, "made of old ropes or cordage only." In Ireland, the duty, first levied in 1798 (by a license upon the engine, according to the contents of the vat), were assimilated to the preceding in 1824. The high duty on the first class, and the inconveniences, evasions, and frauds, attending the other regulations, long the subject of complaint. At length, on the recommendation of the seventh Report of the Commissioners of Excise Inquiry, the duty was, by Wm. IV. c. 52, imposed at a uniform rate of 1½d. per lb. on all classes, from 10th October 1836. This change has led to a considerable increase of trade, and has been otherwise highly beneficial. In 1835, the quantity charged with duty in England, 64,899,901 lbs.; in Scotland, 12,015,059 lbs.; and in Ireland, 1,352 lbs.; total, 79,617,312 lbs.: the net produce of duty being £796,305. In 1841, the quantity charged was, in England, 76,292,724 lbs.; in Scotland, 13,354 lbs.; and in Ireland, 3,991,472 lbs.; total, 97,105,550 lbs.: yielding, of duty, £587,380; the quantity having thus increased 22 per cent., while the duty has only fallen off 26 per cent.

Paper consumed in the United Kingdom is entirely of home manufacture, except small quantities of engraving or drawing paper, and of paper-hangings imported from France. But notwithstanding the unrivalled quality of British paper, and our possession of many advantages as to capital and improved machinery, paper exports, which, including stationery of all kinds, amounted in 1840 to £403, are nearly confined to our own colonies and foreign dependencies. Except some printing paper to America, very little is sent elsewhere,—a circumstance very attributable to the fact, that the manufacture, requiring no great capital, is carried on in most foreign countries, who again generally impose heavy duties upon the introduction of all papers which compete with their own. Besides, the foreign paper, though mostly of low quality, is made at a cheap rate, particularly in Germany, from whence large quantities are shipped to South America and other places. Japanese, Chinese paper is extensively imported for common purposes.

PROVISIONS OF THE PAPER DUTY CONSOLIDATION ACT, 2 & 3 VICT. c. 23 (July 19, 1839).

of 1½d. per lb. avoird. imposed on all paper and pasteboard made in U. K.; but, however, is to be drawn back, 1st, On all or press papers *bona fide* used in pressing cloths and stuffs; 2d, On paper used in printing bibles, psalm and prayer books, or books in Greek, or Oriental languages within the duties; 3d, On all paper, pasteboard, printings in complete sets (except bibles, &c., as above), or account-books, exported as merchandise; 4th, On stained, printed, or painted paper exported; on the last, the drawback to be allowed at 2d. per 12 square yards (§ 1). Drawbacks to be under excise (§ 2). Paper-making premises to be entered at excise, and inspected by officers (§ 3-7). Every person intending to export, to give 12 days notice thereof to excise, specifying time, place, when and where, and the person on account of the paper, board, or books, is or intended to be packed; and officer shall weigh the account of same (§ 52). A package and £200 to be forfeited if any substance or other matter be introduced into, except paper, board, or books, or materials necessary in packing; or any device used to mislead or deceive the officer from, or in taking account of the package (§ 53). [By excise Act, October 31, 1839, no objection made to the introduction of other articles of stationery, or of paper not entitled to drawback: provided, in the former case, the quantity shall not exceed in the latter that of the paper, and in the latter that of the books entitled to drawback in

the package; and provided the exporter shall mark on the outside of each package, in presence of the packing-officer, the net weight of the paper of books entitled to drawback; or paper and books, the net weight of each; and the net weight of the articles or books not entitled to drawback, packed with them; and the tare of the package."]

Penalty of £100. and of the package, for the opening thereof, after it is closed, or wilfully defacing or altering the marks thereon (§ 54).

Exporters to give a shipping notice, and enter into security (§ 55).

Packages to be produced to customs officer, who shall see them shipped. A debenture for payment of drawback to be issued in six weeks from shipment (§ 56).

Any stationer intending to cut, gild, colour, or otherwise prepare paper before exportation, to give notice thereof to excise; and no paper so prepared to be packed for exportation on drawback, which shall not be produced in wrappers having the labels thereof so marked by the officer as aforesaid (§ 61).

Penalty of £200, &c. for fraudulently obtaining, or endeavouring to obtain drawbacks (§ 62).

Allowance of duty to be made on paper lost by fire or wreck (§§ 63, 64).

The other provisions chiefly relate to the mode of making up, tying, and weighing the paper, and to other regulations affecting the manufacture, which, as copies of the act are doubtless possessed by all paper-makers, it is unnecessary to notice in this place.

PAPER-HANGINGS, paper stained or printed with some design, in order to be pasted on the walls of a room. They are usually made in pieces 12 yards in length, and about 21 inches in breadth. There are many varieties. Besides common and striped papers, some have a glossy or "satin" ground; others, called "flock papers," have a portion of the pattern somewhat resembling woollen cloth. Ornaments are frequently applied with bronze or imitation gold-powder; while, in expensive kinds, leaf-gold or silver is occasionally used. The papers are commonly printed with size-colours, but some, to bear washing or cleaning, are stained with such as are mixed with oil or varnish. The reduction of the paper-duty, mentioned above, and the abolition of the additional duty on hangings of 1½d. per square yard, have led of late years to a great reduction in their price, and extension in their consumption. They can now be procured so low as 10d. per piece. The patterns have also been greatly improved; though some of the more tasteful designs are still imported from France.

PAPIER-MÂCHÉ MANUFACTURES are properly composed of paper-pulp boiled in a solution of gum or size to give it tenacity, and then pressed into moulds; though the term is likewise applied to trays, snuff-boxes, and other things made by glueing different plies of paper together, and then varnishing. A great variety of articles are now made at Birmingham of papier-mâché; which, from its lightness and cheapness, has also been of late extensively used in the decorative work of picture and mirror frames, and walls and ceilings, especially those of steam-boat cabins and public buildings.

PARAGUAY, an inland S. American state, bounded N. and E. by Brazil, and S. and W. by the Argentine Republic. Area, 90,000 sq. miles; pop. 350,000. The capital is Assumption, in lat. 25° 16' S., and long. 57° 37' W.; pop. 12,000. This state formed, until 1808, one of the provinces of the Spanish viceroyalty of Buenos Ayres: the troubles which broke out at that period were artfully turned to account by Dr Francia, a native lawyer, who in 1814 became dictator of the new state.

Paraguay is generally level, and abounds with numerous tributaries of the Plata, which, in the rainy season, overflow their banks and inundate the adjacent country. It is highly fertile. The most remarkable production is **MATE YERBA**, or **PARAGUAY TEA**, which is sent to Buenos Ayres, and consumed in enormous quantities throughout the whole of the states of the Plata, Chili, and Peru. The other productions are chiefly hides, tobacco, sugar, wood, drugs, honey, and wax. Ships may ascend the Plata as far as Assumption, although 1000 miles from its mouth; but the late dictator Francia so successfully discouraged foreign intercourse, that commerce is now almost annihilated. Prior to his tyrannical administration, the annual exports are stated to have been, Yerba, 360,000 arrobas, value \$1,000,000; tobacco, \$360,000; wool, \$225,000; sugar, spirits, sweetmeats, tanned hides, cigars, cotton, cloth, &c., \$150,000; total, \$1,815,000, or £363,000. The public revenue of Paraguay under the old regime was £75,000. Messrs Robertson estimated Francia's annual expenditure (including the maintenance of 4000 troops), at £117,000. (*Francia's Reign of Terror*, p. 216-221.)

PARCHMENT, the prepared skin of the sheep or goat, was anciently much used as a substitute for paper, and is still, along with **VELLUM**, employed for charters and other writings, for which great durability is desirable.

PAREIRA-BRAVA, a medicinal root procured from the *Cissampelos Pareira*, a native of the West Indies and South America.

PARIS PLASTER, a paste made from gypsum or selenite, so called from being prepared in large quantities from extensive strata at Montmartre, near Paris. It is employed for taking impressions from moulds, and for making statues. Mixed with lime, it is called *stucco*, and is formed into cornices and ornaments for ceilings.

PARMA, DUCHY OF, an inland state in N. Italy, lying between the Apennines and the Po, by which river it is separated on the N. from Lombardy. Area, 260 sq. miles. Population, 476,000. Government, an unlimited monarchy, without a charter or any representative assemblies.

About one-third of the duchy consists of a barren mountain region, the inhabitants of which derive their chief subsistence from the forests of chestnut trees with which it is clothed: the remainder, embracing the low hills and plains stretching from the Apennines to the Po, is fertile, well cultivated, and populous; the lands having a regular system of artificial irrigation as in Piedmont. The pasture grounds are very rich, and support numbers of horned cattle, many of which are exported. Besides these, the exports embrace corn, silk, iron, a little wine, marble, timber, and sulphur matches.

The silk braccio = 23·40 Imp. inches; and the cloth braccio = 25·35 Imp. miles. The biola, land-measure, of 6 tari = ½ Imp. acre nearly. The stajo, grain measure, of 16 quarterole = 1·413 Imp. bushel. The rubbio of 25 lbs. = 18·48 lbs. avoirdupois.

Accounts are stated in lire of 20 soldi. The Parma lira = 2½d. nearly. In 1833, the national revenue amounted to £275,834; and the debt to £428,000.

PARSNIP (*Pastinaca Sativa*), a biennial British plant, common in calcareous soils, and used chiefly as a vegetable. It is next in value to white-beet, as a saccharine root, containing 9 per cent. of sugar. An ardent spirit of excellent quality

s obtained from it ; and parsnip-wine (*Vide* Mr Roberts' British Wine-Maker), said to possess a finer flavour than that obtained from any other British produce.

PARTNERSHIP is a contract by which two or more persons agree to bring together certain articles of property, or valuable acts of service, uniting the commercial proceeds in a common fund, divisible according to some particular rate among the partners. One may bring money, another may bring his industry, a third may bring professional talent, and a fourth, perhaps, his mere name and influence in society, as their respective contributions to the common stock ; the pecuniary results of which may be distributed among these partners in proportions of corresponding variety. The position of a partner being, as between the parties themselves, beneficiary, will require something more to prove it than the mere consent of the individual. As respects third parties, however, the partner's condition being onerous, there are acts of his own which will be sufficient to place him in that position ; hence arises the natural division of the law of partnership into the obligations of partners to each other, and the obligations of partners to the public.

Obligations between the Partners.—All persons free to contract may enter into partnership with each other for any lawful purpose ; and it may be formed either by a regular contract, or by the mere act of mutual trading. In the former case, the contract rules all transactions. A majority cannot alter it, or go beyond its limits, against the will of the minority, unless it be part of the agreement that a majority may bind the whole. There is a choice of persons in a partnership, and so a majority cannot force a new partner on the minority. The executors of a deceased partner are not allowed to occupy his place, unless there be a stipulation to that effect in the contract. The nature of the partnership, however, may be such, that, instead of there being a choice of persons, any one who performs certain conditions is entitled to be a member, as in the formation of a joint-stock company, where scrip is publicly sold. The respective amounts of profit and loss accruing to the partners will generally be provided for by the deed of partnership. Where there is no deed, or no provision on the subject, equality is presumed. The partnership is considered in law a distinct person from the individuals forming it. The property which each individual brings into the concern, becomes the property of the company, and ceases to be that of the individual. When there is capital embarked in the concern by one party, and not by others, it will almost always be the case that the prospective right of property in the stock, as distinct from the profits, will be fixed by agreement ; and the cases where this has not taken place are so few that the law is not very distinct on the point. In one class of partnerships only—adventures, does there appear to be a general rule, which is, that, “ if a person agree to be interested in the profit and loss of an adventure, this agreement alone will not constitute him a partner in the goods which are the subject-matter of the adventure.” (*Coll-ger*, 107.)

An individual partner may buy or borrow from the firm, and the firm may do so from him. The partners are individually bound to the company as its accredited agents, in which capacity they are not allowed to entertain a separate interest from it, by secretly carrying on the business for which the partnership was established, or by using the knowledge acquired in its affairs to the purpose of competing with the partnership in purchases, &c. Any advantages that may happen to be so acquired by individual partners are generally adjudged to be held by them in trust for the company. The partnership has a claim upon the time and attention of each partner, either in terms of the agreement, or in accordance with the circumstances, where there is no special provision. The position in which the person was placed before the partnership commenced, will affect such a question ; thus, professional manufacturers entering into partnership with an attorney in good practice, whom they know to be fully occupied with his profession, would undoubtedly not be entitled to insist on his bestowing the same attention on the manufacturing business as themselves. A partner entitled to share in the profits, is not, without express stipulation, entitled to special remuneration for any amount of attention which he may bestow on the business of the establishment.

If the partners differ with each other on points such as those just discussed, the courts will not, in any ordinary case, interfere to settle the accounts between them without a dissolution. Where there are articles of partnership, there is a remedy in the courts of common law in England, and the Court of Session in Scotland, for breach of performance of the stipulations. Where there are no articles, the remedy, by account between the partners, can, in England, only be had in the

course of equity. Where an account has been taken and a balance struck, a partner may sue at law for what appears due to him on that balance; and he may sue for the cash advanced by him to his partner before the partnership.

Liability to the Public.—We now come to consider the manner in which persons become liable to the public as partners. A man becomes a partner by allowing the world in general to presume that he is one: as, by having his name on the sign of a shop, or on the bills of parcels, invoices, or accounts, or by putting his name to the negotiable instruments drawn on the firm. Where there are such manifestations of partnership, the party continues to be liable, though notice of dissolution should be given in the Gazette; and it is even said, that he will be liable though the person claiming against him was ignorant at the time when he contracted of the circumstances so inferring liability, and was not induced to contract with the firm by the belief that such a person was liable as a partner for its engagements. Where A took a promissory note from a firm, B stating that he had retired from the firm, but that it had been stipulated that his name should remain in it for some days, within which days the note was drawn, B was held liable (*Brown v. Leonard & Co.*, 130). A person will not continue liable, however, for the engagements of his partners in neglecting to disconnect his name with the company, if he has not given his consent to its remaining, and if he has taken all proper steps to give notice to all concerned. This is generally accomplished by advertisement in the Gazette, and by special notice to the parties with whom the firm has dealings. But there may be circumstantial notice, which a party will have to disregard at his own peril: as where there is a change in the wording of the checks, bills, invoices, &c. The advertisement in the Gazette is sufficient notice to all who have not had dealings with the concern.

Persons intending to agree for a share of the profits as the remuneration of labour, generally involve themselves in the liability of a partner. "If a person agrees to pay another for his labour in a concern, a given sum, in proportion to a given quantity of the profits, it has been considered to be settled that this does not constitute a partnership as to third persons; but that it does constitute a partnership if he have a special interest in the profits themselves, as profits" (*Montagu*, 16). An agreement that a broker shall have for his profit whatever he can obtain upon the sale above a certain sum, does not constitute partnership; but one coal-dealer having agreed with another to bring customers to the concern, receiving in return an annuity and for every chaldron sold, was held a partner, she having allowed her name to be used (*Young v. Mrs. Arneil*, cited 2 *Hy. Blackst.* 242). If the company be accommodated with money, the interest or return for which rises and falls with the profits, it will undoubtedly make the lender a partner. In short, it may be safely stated as a rule, that where any one has an interest in a concern, the extent of which is variable according to the result of the transactions of that concern, he is liable to the world as a partner. When the circumstances on their original merits are sufficient to found such responsibility, it will not affect the matter that the individuals have otherwise arranged with each other, or even that third parties were ignorant of the responsibility of an implied partner, and dealt without regard to his credit.

Each partner is liable, to the full extent of all he possesses, for the general obligations of the company, and each is its accredited representative, entitled, like an agent, to bind it to all suitable obligations. In England, a partner can only engage the company in simple contracts: he cannot bind it by deed, unless he be expressly empowered by deed to do so. In Scotland, the distinction between simple contract and deed does not exist: but in practice, from the simply administrative nature of the acts which may be transacted by individuals, the law is very nearly identical with that of England. "Although," says Professor Bell, "a partner be thus empowered by implied mandate to bind the company and his copartners in acts of ordinary administration, and in the usual course of trade, he holds no such power to bind in extraordinary acts out of the usual course. Thus, a reference to arbitration will not bind the company, if signed or agreed to by one of the partners, unless expressly agreed to or homologated by the rest, or by the company" (*Com. ii.* 215). The engagements which a single partner can bind the company to, must be acts of administration naturally connected with the business of the partnership. A reference to arbitration and a guarantee are out of the ordinary course of business, and would require special authority: but a partner may pledge the goods belonging to the company. The transaction does not require to be strictly confined to the line of trade, as defined in the articles of partnership. The powers of individuals may, therefore, be limited: but the public, not aware of the limitation, are not bound by it, and, when they see a partner ready to transact in the name of the

such operations as it is natural that he would have to transact in the course of business for which the company exists, they are entitled to place faith in him. Negotiable instruments are presumed to be in the way of business of every description of commercial partnership, and so each partner is entitled to draw, accept, endorse bills and notes for the company. If a bill be drawn on the partnership by its usual collective name, and be simply accepted by one member signing his own name, he will bind the whole. But it is essential to this species of obligation as to others, that it have the appearance of being contracted for the behoof of the firm, and in the course of its legitimate business. In partnerships purely commercial, the presumption will always be in its favour; but it is otherwise in farming and mining speculations; the presumption here is *against* the negotiable instrument being in the usual course of the business of the firm, but it may still be presumed to be so. In a partnership where no capital is required, it is clear that one partner cannot bind the others in negotiable instruments.

A partner being in the eye of the law the agent of the company, many analogies may be drawn to illustrate his powers, from the authority of agents to bind their principals in the course of ordinary transactions; and it may be inferred, that if the partner exceeds his proper power, the firm, or another partner, as the case may be, may adopt the act as a principal does that of his agent. [PRINCIPAL AND AGENT.] The obligation having been incurred by the partner in the name of the firm, and being within his express or implied authority, his subsequent fraudulent application of the consideration to his own use will not affect the responsibility. Thus, where a partner bought for the company, who were harness-makers, a number of bits for bridles, and immediately pawned them for his own use, the other partners in vain endeavoured to defend themselves on the plea that the bits had never gone into the company's stock, and that the transaction was a fraud by one of the partners (*Bond v. Gibson and Jephson*, 1 Camp. 185). A person dealing with the partner, however, be accessory to the fraud, or if he does not suspect that a fraud is to be committed, or if he be placed in a situation in which a man of ordinary discernment ought to know or suspect that the partner is exceeding the limits of his authority, the other partners will not be liable. Where a partner takes from a partner a security in name of the firm, for a debt due to an individual partner, fraud or such negligence as will free the other partners is always presumed, subject of course to proof on the part of the creditor that he had every reason to believe that the partner acted within his authority. Where a security incurred for the partner himself, but in the name of the firm, is liquidated by a security, the presumption is against the other partners. Negotiable instruments bearing the partnership name, though obtained by collusion with an individual partner, are good against the others in the hands of an onerous and *bona fide* purchaser. [BILL OF EXCHANGE.]

A counterpart to the power of the individual members to bind the company, who contract with such individuals will in similar circumstances be bound to the company. Thus, where a member sells partnership goods, though in his own name, the company may sue for the price. They cannot, however, make the third party suffer for the fraud of the partner; and so, if the purchaser was creditor of the partner at the time of the purchase, he is allowed to set off the two sums against each other; for the chance of set-off may have been the inducement to the bargain. A general doctrine that the rights of the firm against third parties may be defeated by any one of its members, and payment to one is in all cases payment to the whole, unless there be fraud committed and connived at by the payer.

Dissolution.—A limit to the partnership may be fixed in the articles, and if not expressly fixed, may be deduced from circumstances. A partnership is not, however, dissolved by the mere expiry of its period of continuance, it is merely then terminable; if the parties continue to transact business as usual, an indefinite partnership is considered on. A partnership may be dissolved before the arrival of the period to which its duration is fixed, on just cause, such as, that the object of the association is impracticable, or that the farther pursuit of it would be attended with inevitable loss, or that one of the partners has become insane. Such remedy will be given on application of a portion of the partners, by the courts of equity in England and the Court of Session in Scotland. When all the partners agree, the company may of course be at any time dissolved, notwithstanding any previous stipulation to the contrary. A partnership at will, or without any specified limit, may be dissolved at the pleasure of any one partner. But a partner is not entitled suddenly to dissolve the connexion for the purpose of taking his colleagues by surprise, and immediately pursuing the partnership business for his own advantage. Where a

partner attempts such a project, he will have to communicate the advantage to his colleagues, as where one partner obtained a renewal of the lease of the company's premises, without warning the others of his intention to apply for it (*Featherstonhaugh v. Fenwick*, 17 *Vesey*, 298). The death of a partner operates as a dissolution, unless it be stipulated that his representatives are to succeed to him, in which case the obligation is a right in which they represent their predecessor. In England, an adjudication in bankruptcy against a partner, and the marriage of a female partner, dissolve partnership. In Scotland, it is held that, "1st, The marriage of a female partner of a company seems a change so important that it should form a ground for dissolving the partnership. 2d, Incapacity may be by bankruptcy or disease. Insolvency of a partner does not alone dissolve a partnership. It does not operate as a transfer, nor tie up the hands of the partner. Neither has bankruptcy under the Act 1696, c. 5, any effect of this sort; and it may be doubted whether it would dissolve a partnership. But bankruptcy by sequestration, which transfers to the creditors all the partners' rights, will unquestionably have this effect. So it would appear would a trust-deed for the benefit of creditors." (*Bell's Com.* ii. 634.)

Bankruptcy.—There is a considerable difference between the practice of these parts of the empire which follow the law of England, and the practice in Scotland, as to the distribution of the estate, where both the firm and individual partners become bankrupt. According to the former, the partnership estate and the individual estates are separated from each other, each becoming liable for its own debts in the first place. The joint estate is first applied to the payment of the partnership creditors, the surplus only going to the creditors of the separate estates; and the separate estates are first applied to the respective separate debts, the surplus only going to the creditors of the joint estate. "In Scotland, the creditors of a company have set apart, as held in trust exclusively for them, the partnership estate, for payment of their debts against the company; and they have a right to be ranked as creditors, for the balance unpaid, on the private estate of the partners" (*Bell's Com.* ii. 660). To the English rule there are exceptions. A joint creditor, who is the petitioning creditor in a separate *fiat*, may prove against the separate estate, and so may a joint creditor, where there is no joint estate whatever, and no solvent partner to meet the responsibilities of the company. Where a partner becomes bankrupt, the assignee (in Scotland the trustee) takes his place as a member of the partnership, for the purpose of winding up its affairs. The creditors are entitled to the bankrupt's individual share of the property in common, subject to the state of the partnership accounts. No member of the company has any claim on its bankrupt estate until the claims of the joint creditors are satisfied.

After an act of dissolution, a partnership exists only for the purpose of winding up its affairs, by converting the estate with all expedition into money, and dividing the proceeds among the partners. It is often agreed that the business of winding-up is to be transacted by one member of the company, but the partners still continue liable for his transactions with third parties, so far as consistent with the powers which the public may have reason to suppose that he has been intrusted with. Where it is known that the partnership is dissolved, such a person will not be entitled to pledge the credit of his copartners to a negotiable instrument. It is one of the privileges of a partner to insist, on occasion of a dissolution, that all the partnership property be brought to public sale. (*Montague on Partnership. Cary on Partnership. Collyer on Partnership. Smith's Mercantile L.*, 18-56. *Bell's Com.* ii. 612-669.) [COMPANY. CORPORATION. JOINT-STOCK.]

PASSENGER. [CUSTOMS. EMIGRATION. SMUGGLING.]

PATENT-LETTERS are those public acts of the crown, which, being patent or open to the public at large, have the great seal appended to them. Corporations are thus constituted, and peerages may be thus conferred. The most important description of letters-patent, however, are those commonly known by the name of patents, in which the crown confers a monopoly in some new invention of a useful manufacture or commodity, on the inventor or those authorized by him. In England, by 21 Jas. I. c. 3, this authority was retained when the power of the crown to grant monopolies in other cases was abolished by act of Parliament, and the practice seems to have been tacitly adopted in Scotland. By that act, the period beyond which the crown cannot grant the privilege is fourteen years; but by a late act a patent may be renewed for seven years.

The procedure commences with a petition, narrating the utility of the invention, and praying for the usual privilege of "the sole working, constructing, making, selling, using, and exercising of the said invention." The parts of the kingdom for

which the patent is prayed must be mentioned. One patent will serve (if specially desired) for England and the colonies. The patent states a time within which the "specification," as described below, must be lodged. In practice, two months is the period when the patent is for England only, four months when it is for England and Scotland, and six months when it is for the United Kingdom (*Carpmael on Patents*, 62). The expense of obtaining a patent for England is estimated at £120, for Scotland at £100, and for Ireland at £125, or upwards (*Report of Select Committee on Patents*, 12th June 1829, p. 17).

IN ENGLAND, the petition is accompanied by a declaration before a Master in Chancery, that the petitioner has invented or imported the article. The petition and declaration are lodged at the Home Office; and in a few days the former is returned, with a reference to the Attorney or Solicitor General. It is in the option of the applicant to lay it before either of these officers. The clerk of the law-officer searches his books for a caveat that may affect the petition, and if he find one, gives notice to the party who entered it, who has a week to give notice of opposition. The law-officer hears parties and reports. This report receives the royal warrant at the Home Office, directing a bill to be prepared for the royal signature. The warrant is then taken to the Patent Office, where again it may be opposed on a caveat. If the law-officer decide in favour of the applicant, he signs the bill, which then goes to the Signet Office, where it receives a warrant called a signet bill, and passes to the Privy Seal. A Privy Seal warrant, or Privy Seal bill, authorizing the appending of the Great Seal, is granted, and coming then before the Lord Chancellor, it may be opposed for the last time. Here the letters-patent are made out and sealed with the Great Seal.

IN SCOTLAND, the declaration is made before a Justice of the Peace, the petition and declaration are referred to the Lord Advocate, a Queen's warrant is granted, and the seal appointed by the Treaty of Union as a substitute for the Great Seal is appended.

IN IRELAND, the petition and declaration are referred to the Lord-Lieutenant, a Queen's letter is granted on his report, and the Great Seal of Ireland is appended. (COMMENTARY ON THE LAW OF PATENTS.)

Caveat.—Any one fearing that his invention may be anticipated before he is ready to apply for a patent, may lodge a "*caveat*" with the law-officers of the crown. This is a request that notice may be given to the person who enters it, if application be made for a patent on the subject of an invention which he describes in general terms. The caveat secures no monopoly or exclusive right against the public; its sole effect is against any other person's right to obtain a patent for the invention. If any person, therefore, makes and vends the commodity in the mean time, the caveat becomes useless, for neither the inventor nor any other person can obtain a patent.

When a caveat is lodged, if any person applies for a patent relating to the same subject, the lodger receives notice, and has seven days for deciding whether he shall oppose the application. If he oppose, both parties are heard by the law-officer of the crown. If the inventions are different, each may obtain a patent. If both have made the same invention, neither can obtain one. If the one has borrowed from the other, however, the original inventor will undoubtedly be entitled to the patent. A caveat expires in a year, but may be renewed.

Prolongation of a patent for seven years, after the expiry of the original fourteen, may be granted in terms of the act 5 & 6 Wm. IV. c. 83. The applicant publishes his intention to apply for the prolongation to her majesty in council, by advertisement thrice in the London Gazette, in three London papers, and thrice in a local paper—where his manufacture is carried on, or (if he carry on none) where he resides. He then petitions the council. A caveat may be lodged against the prolongation. The judicial committee, hearing parties, and examining witnesses, report whether the prolongation should be granted or not. These proceedings must all be fol-

lowed out before the original period of fourteen years expires.

The Invention.—It is a requisite that the invention be complete of its kind, constituting when embodied a vendible article. The discovery of a mere principle cannot be protected,—a practical result in the form of an article of commerce must be shown. The invention must have been made by the claimant of the patent, or must have been introduced by him from a foreign country. It must not have been used before, or employed as an article of trade or manufacture, either by the petitioner or any other person. Use in one of the divisions of the United Kingdom will not invalidate a patent for any other part, if obtained by the original inventor or importer from abroad. By 5 & 6 Wm. IV. c. 83, provision is made for protecting parties from the consequences of immaterial and nominal adoptions of previous inventions.

The Title under which the patent is petitioned for is an object of importance, as it is by its applicability to the invention that the lodger of a caveat knows whether the application will interfere with himself or not. It must convey an idea of what has been invented, but of nothing more. Thus, Lord Cochrane's patent for naphtha-lamps was found void, because it was called "a method or methods of more completely lighting cities, towns, and villages;" whereas, though it was only for such a purpose that his invention could apparently be used, from the noxious nature of the materials, the invention was after all but a lamp suitable for the purpose of burning naphtha, and should, it was said, be called so (*Cochrane v. Smethurst*, 1 Stark. 205). The title must not contain more uses for the commodity than those which it is adapted to; so Felton's patent in 1827, for "a machine for an expeditious and correct mode of giving a fine edge to knives, razors, scissors, and other cutting instruments,"

washed had because the machine described would not sharpen scissors. (*Holroyd on Patents*, 94.)

The Specification or description of the invention enrolled by the patentee requires peculiar attention. "The invention must be accurately ascertained and particularly described: it must be set forth in the most minute detail. The disclosure of the secret is considered as the price which the patentee pays for this limited monopoly, and therefore it ought to be full and correct, in order that the subject of his patent may at its expiration be well known, and that the public may reap from it the same advantages as have accrued to him." (*Godson on Patents*, 106-7). On the proper characteristics of the specification, Mr Godson further says, (p. 118). "It is a fundamental rule, on which all others for making and judging of a specification depend, that the secret must be disclosed and the invention described in such a manner that men of common understanding, with a moderate knowledge of the art, may be enabled to make the subject of the patent."

"The description must be confined to the manufacture, that the novelty may be known. Extraneous matter, however learned, must not be introduced to darken it. Though it is addressed to the public in general, it need not be so circumstantial, or so explanatory, that persons entirely ignorant of the science from which the subject is taken may thereby alone be able to learn and use the invention. Nor, on the other hand, should the description be so concise as to become obscure."

If things are described as being used to produce the effect, which really have not been used, they are presumed to be stated for the purpose of misleading, and will have the effect of destroying the patent. Such also is the effect of any attempt to conceal the use of known materials by an obscure method of describing them, or by a technical description of the method in which they are formed, such as to make that appear part of the invention. (*Savory v. Price*, 1 R. & M. 1.)

Improvements.—Where an improvement merely has been invented, care must be taken not to make the terms of the specification such that a reader may be led to infer that a part of the commodity, well known before, has been invented by the patentee. Mr Godson lays down these modes of specification as the best adapted:—

"First, By describing the whole manufacture, and then particularizing, with great exactness, the addition of the inventor."

"Secondly, By a description of the whole manufacture, pointing out the parts that either are old or not material to the invention."

"Thirdly, By giving an accurate and intelligent description of the improvement, and the manner in which it is applied to the subject, or parts that are old."

"Fourthly, By describing the whole manufacture, if it be an improvement of another for which a patent has been obtained, taking care to refer in the new specification to that of the former patent." (156-7.)

PAWN, OR PLEDGE, is a contract by which a lender, or other creditor, is put in possession of some article of moveable property, which he retains as a security for the payment of a debt. There are several transactions of this class which can only be legally undertaken with a licensed pawnbroker, and to these cases the statutory regulations abridged below strictly apply. There are certain principles of mercantile law which, however, apply to cases not coming within these regulations.

The person who gives the pledge is called the pawner, and the person who receives it the pawnee. The contract is one of those bailments to which the rules of careful custody apply, and the pawnee is held responsible for ordinary care of the pledge deposited with him. [BAILMENT.] If, being of a perishable character,

Amendment.—By 5 & 6 Wm. IV. c. 83, a person who holds a patent may enter an amendment with the clerk of the patents of England, Scotland, or Ireland, with consent of one of the law-officers of the crown. The amendment may extend to "a disclaimer of any part of either the title of the invention or the specification, stating the reason for such disclaimer;" or "a memorandum of any alteration in the said title or specification, not being such disclaimer or such alteration as shall extend the exclusive right granted by the said letters-patent." Such amendment is considered a part of the specification. A caveat may be lodged, giving the party a right to be heard against the amendment before the law-officers. The law-officer may require an advertisement to be made before he grants his consent to the amendment. No amendment can be pleaded in any action pending at the time when it is enrolled.

Extent of the Privilege.—It is a condition in every patent, that the patentee shall not, by assignment or otherwise, extend the privilege to any number of persons exceeding five, or open any books for public subscriptions to raise money for carrying on the operation from persons exceeding that number, and that he shall not presume to act as a corporate body. This does not prevent the patentee from granting licenses to any number of persons to use his patent, provided the consideration they pay be a sum certain, either received in full at the time of granting, or paid periodically. It is when the consideration for the communication of the privilege is connected with the profits, and constitutes a partnership between the patentee and the privileged person, that the above restriction comes into operation.

Except in so far as thus limited, the patentee has full command over his privilege. Whenever it is infringed he can obtain damages. Whether the patent infringed be a valid one will depend on the matters already discussed.

By 5 & 6 Wm. IV. c. 83, when a person is pursued for infringement of patent, if he intend to object to the validity of the patent, he must give notice of his objections; and he can prove no other objections but such as he gives notice of, unless with the discretionary permission of the judge on special cause shown.

The patentee can convey his privilege in full, with his right of action, or he may communicate it by license, or convey a share in it, subject to the limitations noticed above. It is available to creditors on bankruptcy.

By the act of 5 & 6 Wm. IV., whoever, without license of a patentee, imitates his mark or stamp, or by the use of the word "patent," or otherwise, endeavours to make articles pass off as those of the patentee, is liable to forfeit £5 for each offence. The act permits an article for the making of which a patent has expired, to be marked as "patent."

(*Godson on Patents*. *Holroyd on Patents*. *Carpmael on Patents*. *Wolster on Patents*. *Barton's Manual of the Law of Scotland*, 381-384.)

sh in the course of nature, he is not responsible, and may recover his money. of a nature to be deteriorated by use, as wearing apparel, he is not entitled use of it. In the case of an animal which is not deteriorated by use, and nation to employ which is a loss of valuable services,—as in the case of a or a dog,—it is an understood part of the contract that the pawnee has the the pledge. Where there is neither advantage nor disadvantage to the in using it,—as in the case of jewellery,—it would appear that the pawnee se the pledge, but that he is absolutely responsible for all damage or loss ay arise from the use. He must give up the pledge on a tender of the debt, nless by special contract, there is no time when the pledger cannot redeem. Tomlins, voce Pawn. Jones on Bailments, 75-85.)

PRINCIPAL STATUTORY REGULATIONS AS TO PAWNBROKERS.

25 Geo. III. c. 48, and 39 & 40 Geo. 29, every pawnbroker must take out a license. Persons who take no higher per cent. per annum for money lent on are not to be deemed pawnbrokers. brokers must, under a penalty, enter every (if exceeding 5s.), with a description of lge, the date, and the name and address person pawning the goods, and of the in a book, and must copy the entry on et; all advances above 10s. must be en- a separate book and numbered, the num- g marked on the ticket.

pawnbroker must file a duplicate on a eing redeemed, stating his profit. Pawn- receiving in pledge unfinished manufac- apparel, from the persons to whom they mitted to be finished, forfeit double the ut, and must restore the goods. On the tion of the proprietor of any goods, showing use to presume them unlawfully pawned, t may be granted by a justice to search n, by breaking open doors, &c., and to them to the owner.

are provisions authorizing justices to restitution of pledges for loans under a tender of the sum and profits. Where is destroyed or mislaid, the pawnbroker compelled to give the owner a copy of a blank affidavit, which being filled up tice, on evidence of ownership and the solemn declaration, restores to him the redeem the goods.

re it is proved to a justice that a pawn- has embezzled or injured a pledge, or before the proper time, he may award a.

wnbroker not producing his books and unmutilated when required by a magis- a consequence of any criminal or other n, is liable to a penalty. Pawnbrokers of take pledges from persons intoxicated, children under 12 years of age. There other provisions for the prevention of ent pledgings and other offences incident nature of the transaction.

mation against pawnbrokers for offences e given within twelve calendar months. following is the rate of profit or interest pawnbrokers are entitled to charge per

calendar month (a charge for one month being due at any time before its expiry, but charges for additional months not commencing until after the expiry of seven days, and being to the extent of only one-half the profit, until after the expiry of the first fourteen days). For 2s. 6d., one halfpenny. For 5s., one penny. For 7s. 6d., three halfpence. For 10s., twopence. For 12s. 6d., twopence halfpenny. For 15s., threepence. For 17s. 6d., threepence halfpenny. For a sum of £1, fourpence; and so on progressively and in proportion for any sum not exceeding 40s. For every sum exceeding 40s. and not exceeding 42s., eightpence; and for every sum exceeding 42s. and not exceeding £10, threepence to every £1, and so on in proportion for any fractional sum. Where any intermediate sum lent on a pledge exceeds 2s. 6d. and does not exceed 40s., a sum of fourpence may be charged in proportion to each £1. Pawnbrokers must expose to sight in their offices tables of these rates, and of the rates charged for tickets as above.

Goods pawned are forfeited on the expiry of a year, exclusive of the day of pawning. But it has been held that the property is not transferred, but that the pawnbroker merely has a right to sell the article; and consequently that, on a claim after this period, with tender of principal and interest, the property must be restored if unsold. (Walter v. Smith, 5 Barn. & Ald. 439.)

All pledges for sums above 10s. and not more than £10, must be sold by auction, preparatory to which they must be exposed to public view, and advertised according to fixed regulations. Pictures, prints, books, bronzes, statues, busts, carvings in ivory and marble, cameos, intaglios, musical, mathematical, and philosophical instruments, and china, must be sold in sales by themselves, at some one of four periods in the year, viz. on the first Mondays of January, April, July, and October, and following days, with the usual preliminaries, under penalty. If the owner give notice before one witness to a pawnbroker not to sell a pledge at the expiry of a year, it must be kept, liable to the redemption of the owner, for three months additional. Pawnbrokers must keep accounts of such sales in a specified shape, open to any person interested, on payment of a penny. Pawnbrokers must not purchase pledges except at the auctions.

PEAR, the well-known fruit of the *Pyrus communis*, is extensively cultivated in country, more particularly in Worcestershire, where it is made into perry. fruit catalogue of the Horticultural Society contains above 600 varieties of ar; and it is there observed, that the newly introduced Flemish kinds are of more importance than the greater part of the sorts which have been hitherto ted in Great Britain, and when brought into use, will give quite a new fea- to the dessert." (*Veg. Substances*, vol. i. p. 234.) The quantity imported is

The timber of the pear-tree is light, smooth, and compact, and adapted for g, for picture-frames, and tool-handles.

PEARL (Fr. & Ger. *Perle*. Arab. *Looloo*. Pers. *Mirwareed*. Cyng. oo), a spherical concretion found inside of the shell of the *Concha Margariti-* testaceous fish of the oyster kind. It consists of alternate concentric layers

of membrane and carbonate of lime. The best are of a clear bright whiteness, free from spot or stain, with the surface naturally smooth and glossy. The largest are the most valuable. Those of a round form are preferred, but the larger pear-shaped ones are esteemed for ear-rings. *Seed-pearls* are those of the smallest size. The most extensive pearl-fisheries at present are those in the Gulf of Manaar in Ceylon, where the finest are procured, and near Bahrein Island, in the Gulf of Persia. The net revenue derived from the Ceylon fishery for the 9 years prior to 1834, was £145,000; in 1835 it produced £38,000. At Bahrein, the fishery, according to Lieutenant Wellsted, employs in the season about 4300 boats. Pearls are also obtained at the S. extremity of the Indian peninsula, in the Saluk islands, and in other parts of the east. They were also formerly procured in various parts of the New World, but the American fisheries are now of little importance. Pearls are likewise found on the Algerine coast, and in some parts of Europe. In Britain, a coarse kind may be got in some rivers, particularly the Tay, from a large sized muscle (*Unio Margaritifera*). The best pearl-oysters are generally found in water about 7 fathoms deep, and are procured by divers who remain under water scraping them off rocks for 50 or 55 seconds at a time. A diver often brings up in his basket 150 oysters at a dip, but at other times not more than 5. The most valuable on record are, one purchased by Tavernier at Catifa, in Arabia, the diameter of which was rather more than half an inch, the length upwards of two inches, and the price £110,000; and one obtained by Philip II. in 1587, from the island of Margarita, off the Colombian coast, which weighed 250 carats, and was estimated at 150,000 dollars. The value of pearls, however, has now fallen, chiefly owing to the great improvement which has taken place in preparing them artificially. The best imitation ones are perhaps those made by a Frenchman named Jaquin, by covering the inside of hollow glass beads with essence d'orient. Roman pearls are prepared with the purest and finest alabaster.

PEASE (Da. *Erter*. Du. *Eruuten*. Fr. *Pois*. Ger. *Erbesen*. It. *Piselli*. Per. *Errilhas*. Sp. *Guisantes*), the product of a well-known leguminous plant, of which two species are commonly distinguished in this country,—the gray field pea (*Pisum arvense*), grown extensively in some parts of England, and the only kind raised in fields in Scotland; and the white or yellow pea (*P. Sativum*), the species cultivated in gardens, but which is likewise extensively reared in fields in Middlesex, Kent, and other English counties. Of these two species there are many varieties. The soil best adapted for pease is a light or sandy loam of some depth, and in good heart; but they should not be repeated on the same ground in less than 10 or 12 years. Their produce is very uncertain; none of our cultivated crops presents such frequent failures. According to Professor Low, “30 bushels an acre are held to be a good crop in most districts of this country. Perhaps the average of the kingdom does not exceed 20 bushels an acre.” Pease are highly nutritious, and, boiled with some animal fat, make an excellent food for hard-working men. The garden varieties are esteemed as culinary vegetables in their season; the others are extensively used in feeding stock. [CORN.]

PEAT, a kind of fuel, composed chiefly of the decayed fibres of mosses.

PECK, a British corn-measure, containing 2 Imp. gallons, or 9.08 Fr. litres.

PECUL, a Chinese weight equal 133½ lbs., but in Java reckoned 136 lbs.

PEDLAR, or HAWKER, an itinerant dealer in small-wares. In England, a pedlar is required (under a penalty of £50), to take out an annual license from the stamp-office, costing £4 if he travel on foot or with horses alone, and £8 if he travels with a horse or other beast bearing or drawing burden. Before receiving a license, the applicant must produce a certificate of character from the parish clergyman and two householders. The words “Licensed Hawker” must be placed conspicuously on his pack, cart, and handbills (50 Geo. III. c. 41, and 1 & 2 Wm. IV. c. 22, § 75). In Scotland, the regulating act is 55 Geo. III. c. 71. A hawker is prohibited, by 48 Geo. III. c. 84, § 7, from selling tea, foreign spirits, tobacco, or snuff.

PELLITORY (*Anthemis Pyrethrum*), a plant cultivated in Germany in Thuringia, and near Magdeburg, for its root, which is used in medicine as a masticatory and stimulant. The root is without smell, and when dry it is some inches long, tough, fibrous, of the thickness of a quill, externally gray, internally white.

PENANG, PULO-PENANG, or PRINCE OF WALES ISLAND, a settlement of the East India Company, on the W. coast of the Malayan Peninsula. Area, 130 sq. miles. Population, 40,000, chiefly Malays and Chinese. Georgetown, the port, pop. 20,000, is situate in lat. 5° 25' N. and long. 100° 23' E. A resident is stationed here, subordinate to the one at Singapore.

The greater part of the island is mountainous and steril, or covered with forests. A portion of the south and of the eastern parts is level and cultivated. The seasons are irregular. The wet season is generally from September to November; coldest months, December and January; hottest, June and July. Fahrenheit ranges in Georgetown from 70½ to 90, but considerably lower on the hills. The chief productions are spices, especially pepper and fruits; and the fisheries are extensive. This settlement was formed in 1786; and from its position, salubrity, and the abundance of provisions, was found useful during the war as a place of resort for our shipping: it is at present visited by vessels proceeding from India and Arabia to China. It was formerly an important emporium for the trade with the numerous petty and semi-barbarous states in the Eastern Seas; but of late it has been supplanted by SINGAPORE. It is now chiefly used as an entrepôt for the produce of the countries in its own neighbourhood, in the Malay Peninsula and Sumatra,—the native merchants receiving in exchange British and Indian goods. It is supplied with rice from Bengal, Acheen, and the Queda territory. In the year 1835-36 the imports were valued at £411,700, and the exports at £420,675. For measures, weights, and money, see MALACCA.

Opposite to Penang, on the Malay Peninsula, is the British province of Wellesley, extending about 30 miles along the coast, and from 6 to 10 miles inland. Pop. in 1836, 47,555. The sugarcane is here extensively cultivated by Chinese settlers.

PENCIL MANUFACTURE. The pencils of the finest quality are made from plumbago or black-lead, procured in Borrowdale mine, about nine miles from Keswick, in Cumberland. The produce of this mine, which belongs to a company, is periodically despatched to their warehouse in Essex Street, Strand, London, contiguous to which their "lead sales" are held on the first Monday of every month. The best pencils are cut out by a saw from sound pieces of plumbago, previously calcined in close vessels at a bright red heat. No other lead is considered equal to that of Borrowdale, though its quality is not uniform, but an inferior sort, imported from Mexico and Ceylon, is used for secondary pencils; and more common ones are now largely made from a composition of plumbago powder, lamp-black, and clay. The manufacturers who enjoy the highest reputation are, Banks, Forster, & Co., and Airey, of Keswick; and Mordan & Co., and Brookman & Langdon, of London.

PENNY, the most ancient British coin, was at first composed of silver, and minted with a deep cross. When broken into two parts, each was called a *half-penny*, and when into four, each was called a *fourth-thing*, or farthing. Pennies are still minted in silver, but those in general circulation have been for a long time made of copper. [COIN.]

PENS are either derived from the quills of fowls, or fabricated from steel. Quills fitted for writing may be obtained from many birds, but the best are those of the goose, the only kind used in large quantities. Of these, 5 are obtained from each wing, and 20 may be procured from each bird during the year. They are arranged by the quill-dresser into "Firsts" called *Pinions*, "Seconds," "Thirds" (the largest and most valuable); and the fourth and fifth quills are both known by the name of "Fourths" or "Flags." To remove their membranous skin and natural softness and toughness, so as to fit them for writing, different means are followed in different countries. In Britain they are now generally "dressed" by the process of *duching*, which is performed by introducing the quill for a moment into a red-hot earthenware retort, and then passing it quickly between a blunt knife and heated plate, thus hardening it and freeing it from skin. They are then tied up in bundles of 25 each for market. The British and Irish are inferior to those brought from the Continent, especially from Riga and Hamburg. In 1841, the number of foreign quills entered for consumption was, 18,000,000.

Steel-pens were little used until 1830, when their rigidity was modified by Mr Perry, by introducing apertures between the shoulder and the point; other improvements have been since made by him, and by Messrs Mordan, Gillott, and others; and the quantity used in this country is now very considerable, besides which, great numbers are exported. The total quantity of steel employed in this manufacture has been estimated at 120 tons, from which upwards of 200,000,000 pens are produced. One Birmingham manufacturer employed in 1838 no fewer than 300 persons in making steel-pens. They are besides extensively manufactured in London and Sheffield. There are many kinds, but the common "three-slit pen" has long been and still is a favourite. When first introduced, steel-pens were as high as 8s. a-gross; they afterwards fell to 4s., and now they are produced at Birmingham at fourpence a-gross!

PEPPER, a name given to several aromatic berries or fruits extensively used as condiments. Four different kinds are distinguished in commerce: black pepper, long pepper, Cayenne pepper, and Guinea pepper.

BLACK PEPPER (Du. *Peper*. Fr. *Poivre*. Ger. *Schwarz Pfeffer*. It. *Pepe nero*. Por. *Pimenta*. Sp. *Pimienta*. Hind. *Gol-mirch*. Pers. *Tilist seeah*), the most important of all spices, is the product of a slender climbing-plant or vine (*Piper nigrum*), extensively cultivated in Malabar, in India; Sumatra, particularly the W. coast, and other islands in the Indian Archipelago; Siam,

and Malacca. The best is that of Malabar. The plants begin to bear in their fourth year, are prime in their seventh, and gradually decline about their tenth year. Generally, the culture is not difficult, and two crops are yielded annually; but the produce is subject to great fluctuations. The berries are produced in clusters, and are gathered before ripening. They are at first of a bright red colour, but, by drying in the sun, become black and corrugated on the surface: taste, hot and fiery; odour, slightly aromatic. The largest, heaviest, and least shrivelled are the best. Pepper sold ground is sometimes adulterated with the powder of the husks of mustard-seeds, or burnt crusts; and Dr Paris states, that there are artificial berries, which may be detected by their crumbling when immersed in water. "White pepper," the fruit of the same plant, gathered after it is fully ripe, and freed of its dark coat by maceration in water, is smooth on the surface, and milder than black pepper. It is little used.

LONG PEPPER (Fr. *Poivre long*. Ger. *Longe Pfeffer*. It. *Pepe lungo*), is also the product of a climbing-plant (*P. longum*), abundant in the E. Indies. The berries are small, and disposed in short, dense, terminal spikes. They are gathered unripe and dried, when they become of a dark-gray colour. Their odour is faintly aromatic; but in taste they are exceeding hot.

CAYENNE PEPPER (Fr. *Poivre d'Espagne*. Ger. *Spanischer Pfeffer*. It. *Peperone comune*), is a mixture of the powder of the dried pods of different species of *Capsicum*, more especially of the *C. frutescens* [CHILLIES], the *C. annuum*, or Spanish pepper, and the *C. baccatum*, or bird pepper, natives of the East and West Indies and South America. It is brought to England in the state of powder from the West Indies. In taste it is very fiery and acrimonious; its colour is reddish. It is employed in medicine, but is chiefly used as a stimulating condiment, being an essential ingredient in curry-powder.

GUINEA PEPPER consists of the aromatic seeds of two species of *Amomum* (*A. grans Parvelli*, and *A. grandiflorum*), found on the W. coast of Africa, and imported into Britain from Sierra Leone and other places. They are powerfully stimulant and cordial, and are used for the same purposes as cardamoms.

The trade in the three last is of little importance compared with that in black pepper, which has formed one of the staples of East India commerce from a remote period. This trade has greatly benefited by the opening up of the Company's monopoly; the price in London (in bond) having been reduced from upwards of 1s. per lb. to about 4d. The consumption has also been increased considerably in this country by a reduction of the extravagant duties with which the commodity was burdened during the late war. In 1826, the duty per lb. was lowered from 2s. 6d. to 1s.; and the consumption, which had previously been only about 1,300,000 lbs. a-year, was advanced, in 1834, to 2,457,020 lbs. A further reduction of duty to 6d. per lb. was made in 1837; but this has not been followed by the increase anticipated, the consumption in 1841 not having exceeded 2,750,798 lbs. The imports vary greatly; the amounts in 1838, 1839, 1840, and 1841, having been respectively 3,682,342 lbs., 9,798,059 lbs., 5,927,959 lbs., and 12,928,758 lbs. Excepting small quantities brought direct from Sumatra and other Indian islands, and Western Africa, almost the whole is imported from the territories of the East India Company. The surplus over our own consumption is re-exported to all parts of Europe, the north of Africa, America, and Australia.

Different estimates have been formed as to the extent in which pepper is produced. The latest is probably that furnished, in 1840, by Mr De H. Larpent, chairman of the East India Association, to the Lords' Committee, on the petition of the East India Company. According to that gentleman, "pepper is produced in Sumatra and the Archipelago to the extent of 35,000,000 lbs.; and Malabar, which is our own (supposing India to be all one country), produces from 15,000,000 lbs. to 20,000,000 lbs." (*Par. Paper*, 1840, No. 353, Q. 403.) [PIMENTO.]

PERMIT—Excise. Each statute imposing an excise duty generally specifies a certain limit as to quantity, beyond which the commodity in question cannot be conveyed from place to place without a permit from an officer of excise. The general system of granting permits is regulated by 2 Wm. IV. c. 16. No officer can grant one until a request note be presented to him. The note must be signed by the person desiring the permit, or by his clerk or servant, and must contain the date of requesting, the places from and to which the commodity is to be removed, and the names and designations of the sender and receiver. When the party desiring the permit is not licensed to deal in the commodity, he must satisfy the commissioners of excise, or the collector or supervisor of the district, that all duties have been paid; and, where the goods are not merely transferred to other premises of his own, but are conveyed to another person, he must make a declaration that they have not been sold. Exciseable commodities removed without permit are forfeited, and every person concerned in the removal is liable to a penalty of £300. The permit specifies a time within which it is available, and if not used within that time, it does not protect the goods from seizure on their removal. It is open, however, to prove to the court that the delay was occasioned purely by accident. A permit not used must be returned; and when there is no return, if the officer, on taking an account, find no decrease of stock corresponding to the permit, the

difference is forfeited. There can be no action for the price of exciseable commodities delivered without a permit.

PERRY, the fermented juice or wine of the pear. In this country, it is chiefly made in Worcestershire.

PERSIA (*Pers. Iran*), a kingdom in Asia, extending from 26° to 39° N. lat., and from 44° to 62° E. long., and bounded N. by the Russian Empire, Caspian Sea, and Tartary; E. by Afghanistan and Beloochistan; S. by the Persian Gulf; and W. by the Turkish Empire. Area, 450,000 sq. miles. Population vaguely estimated at 9,000,000, composed chiefly of Mohammedans of the Shiite sect. The kingdom is divided into 13 provinces, which are subdivided into districts. Capital, Teheran; pop. 70,000. The government is a military despotism, vested in a sovereign under the title of shah.

The country exhibits great diversities of surface, climate, and productions. Its most remarkable features are its chains of rocky mountains,—its long, arid, riverless valleys,—and still more extensive salt or sandy deserts. In the N. and E. parts it is cold, mountainous, and barren; in the middle parts, sandy and desert; in the W. and S. it is warm and fertile; and “dreariness, solitude, and heat” are, according to Morier, the chief characteristics of the shores of the Persian Gulf. The greater portion is devoted to pasturage, on which are reared horses, sheep, and goats. The horses, stronger and more serviceable than the Arabian, are highly esteemed. The sheep are of the long-tailed species, producing however very fine wool; while that of the goats of Kerman possesses many of the qualities so much esteemed in the Cashmere variety. The fruits are of peculiar excellence; and the wine of Shiraz is celebrated throughout the east. The mulberry also grows in such abundance, especially in the north, as to render silk the great staple of the kingdom. The grains cultivated are chiefly those of Europe. The other vegetable productions are cotton, tobacco, sugar, drugs, and dye-stuffs. The chief mineral products are copper, iron, salt, bitumen, and naphtha.

In former times Persia was distinguished for the manufacture of all the fabrics suited to the ostentatious taste of oriental countries; and these manufactures are, though to a limited extent, still in existence. The other articles made consist chiefly of arms, earthenware, leather, paper, and jewellery.

The commerce of Persia has at no time been considerable. Besides insecurity of property, it has to contend with various natural obstacles,—roads have scarcely ever existed, navigable rivers are unknown, and the seaports are few and unimportant. The only means of transport is on the backs of camels, mules, or small horses; hence the price of all commodities becomes greatly enhanced by the expense of carriage. The principal raw exports are silk, cotton, tobacco, rice and grain, dried fruits, sulphur, horses, wax, and gall-nuts; and the amount of the three first might be greatly extended. Of manufactured goods Persia sends out only a few,—almost entirely to Russia,—consisting of a considerable quantity of silk and cotton stuffs, with some gold and silver brocade. Besides Russia, the principal intercourse is with Turkey, Bagdad, Arabia, the Usbecks and Turkomans on their northern frontier, and India. In dealing with all these countries except the last, the balance of trade is in favour of Persia, and the excess of her exports is returned in bullion (composed of ducats, dollars, German crowns, and silver rubles), which is chiefly transported to India in return for the large surplus produce brought thence annually either by way of Bushire or of Cabul to Herat and Yezd, and destined to supply the countries towards the west. The total imports are said to exceed in value £3,000,000.

British manufactures are sought after to an extent only limited by the means of the purchasers. Regarding English cloth—a leading import—Lieutenant Burnes states:—“When I was in Persia in the end of 1832, the colours most in request were Oxford blue, blue, and brown; next year they may change to red and gray; but it may be remarked that if dark coloured they generally sell best. The outer garment of most respectable persons is made of broadcloth; and a cheap kind that will keep its colour is the best for export. No high-priced goods of any description should ever be sent into these countries.” The British trade by way of the Black Sea and the Port of Trebizond, and thence overland by Bailout, Erzeroum and Tabriz, is somewhat on the increase; though cramped by the impoverished state of the people, and by the large increase of the exports of Turkish raw silk from Bursa to England, which checks the trade in Persian silk. The most important part is, however, conducted at Bushire, which, since the decline of Gombroon, has become the chief emporium for the maritime commerce of Persia.

Bushire is situated on the Persian Gulf, in lat. 29° 0' N., long. 50° 52' E.; pop. 15,000. It is a mean and dirty town, built on the northern extremity of a sandy peninsula. The anchorage consists of an outer and inner road; the former is not very safe, but the latter, distant about 2½ miles from the town, in 4½ fathoms mud, is free from danger. Bushire is frequented by ships from all parts of India; and her merchants supply the greater part of Persia with Indian and European commodities. From Bombay, Bengal, Muscat, and other places, are imported cotton, woollen, and silk goods, shawls, hardware, watches, and jewellery. Indigo, steel, lead, iron, red lead, zinc, tin, bamboos, cardamoms, cloves, cinnamon, china ware, cassia buds, coffee, camphor, ginger, musk, nutmegs, pepper, sugar, sugar-candy, turmeric, and tobacco. The principal returns are bullion and silk, besides which there are exported drugs of various kinds, sheep's and goat's wool, Cashmere shawls, carpets, rose water, ottar of roses, Shiraz wine, &c.

MEASURES, WEIGHTS, MONEY, REVENUE, &c.

The *Measures and Weights* vary not only in different places, but also according to the purposes for which they are employed. The common cubit or guz = 25 Imp. inches; the royal guz = 37½ Imp. inches; the Tabriz archin = 44 Imp. inches. The league or parasang = ¾th of a degree of the equator, or 3½ Imp. miles nearly; but distances are commonly measured by the auge or furroch, the space walked over by a horse in an hour, estimated by travellers at 4½ Imp. miles; great distances are reckoned by the day's journey of a caravan, about 30 miles. The artaba corn measure, of 25 capichas, 50 cheniclas, or 200 sextarius, = 2 Winchester, or 1-939 Imp. bushel nearly. The principal commercial weight is the bat-

man, of which there are innumerable varieties: the batman of Tabriz of 6 rattels, 300 derhams, or 600 miscals = 6.34 lbs. avoird. ; 2 batmans of Tabriz = 1 batman of Shiraz. Gold and silver are weighed by the derham = 150 troy grains nearly; but the miscal or $\frac{1}{4}$ derham of Bushire is only $71\frac{1}{2}$ troy grains, or about 3 dwts. The abas, pearl weight, = $2\frac{1}{2}$ troy grains.

Money.—The common integer of account is the toman, an imaginary money, divided into 8 reals, 10 sahib-karauns, 20 panabats, 50 abassia, 100 mamoodis, 200 shahies, or 10,000 altens: in some places accounts are kept in piastres of 4 shahies or 40 paras. 50 piastres = 1 toman of account = 10s. sterling. The purse is 50 tomans, about £25.

The coins are too variable to admit of being reduced to any certain or uniform standards; the principal are,—in gold, the mahomet-shahie, worth about 10s. 6d., and the bijacie, 9s.; in silver, the sahib-karaun, and the panabat; gold toman and silver rupees of different values also circulate near the seacoast. A variety of foreign

coins are, besides, in circulation, chiefly ducats, Spanish and German dollars, and Russian rubles, or manéts; the latter current only in the districts bordering on Turkey and Russia. Large payments are generally made by weight.

The *Public Revenue* is estimated by Mr Fraser at £1,500,000, derived from regular and irregular taxes, annual presents, fines, confiscations, and rent of crown lands and buildings.

A *Treaty of Commerce* with Britain was concluded October 28, 1841.

Art. 1. "The merchants of the two mighty states" are reciprocally allowed to buy and sell in any part; and on the goods which they import, customs duties shall be levied once for all on entering, and on exports at the time of going out; the amount of each being that levied on merchandise of the most favoured European nations.

Art. 2. Britain, besides the East India Co.'s resident at Bushire, is allowed to have consuls only at Teheran and Tabriz. Persia is to have consuls at Bombay and London.

PERSIAN, a plain silken fabric, exceedingly flimsy in texture.

PERSONAL PROTECTION, in the Bankrupt Law of Scotland, is a judicial act, having the effect of shielding a debtor from arrest for civil debt. It is a prerogative of the Court of Session, and was formerly an act of judicial discretion. Although now granted as a matter of routine, in virtue of statutory regulations, it is still in the power of the court to withhold it on cause shown. By the Sequestration Act (2 & 3 Vict. c. 41), the Lord Ordinary, who awards sequestration, grants a warrant of protection, to endure till the meeting for electing the trustee (§ 13). At that meeting, or the meeting after the bankrupt's examination, or at any special meeting for the purpose, a majority in number and value of the creditors present may resolve to authorize the trustee to apply for a renewal of the protection (§ 58). [SEQUESTRATION.] By the Cessio Bonorum Act (6 & 7 Wm. IV. c. 56, § 15), the Court of Session and the Sheriff are respectively empowered, in cases before them, on proof of the statutory notices to the creditors, to grant warrant to liberate the debtor if he is in prison, and if he is at large to grant him personal protection, on his lodging with the clerk of court "a bond, with a sufficient cautioner, binding themselves that he shall attend all diets of court whenever required, under such penalty as may be reasonable, and which, if forfeited, shall be divided among the creditors." [CESSIO BONORUM.]

PERU extends 1680 miles along the W. coast of S. America, from lat. $21^{\circ} 28'$ S. to lat. $3^{\circ} 30'$ N. Boundaries, N. Ecuador; E. Brazil and Bolivia; S. Bolivia; W. Pacific Ocean. Area, 485,000 sq. miles. Population, 1,800,000, of which 240,830 are Spanish Creoles, the rest Mestizoes and Indians. Capital, Lima; pop. 70,000. Government, republican; the legislative body consists of a senate and house of representatives; the executive is vested in a president, assisted by a ministry and a council of state.

Peru is naturally divided into three regions, which differ greatly in climate and productions. 1. The "Valles," or coast region, covering 92,640 sq. miles, the greater part sandy or stony wastes, but having the valleys with which it is furrowed rich and well cultivated. The climate is dry, moderately warm, and very healthy; and the European cerealia, maize, rice, and the sugar-cane, are cultivated; also the fruits of S. Europe, including the vine, from the produce of which both wine and brandy are manufactured. Nitrate of soda abounds in the southern districts, and salt is procured on the shore.

2. The "Montana," or region of the Andes, extends about 205,000 sq. miles; its eastern half is covered with forests, but the western mountains are nearly bare. Several of the valleys, particularly that of the Rio Jauja, are fertile and moderately well cultivated. The cerealia and fruits of Europe are grown in the higher districts, and tropical products, including coca, in the valleys; while in the eastern forests, cinchona bark, copaiba, copal, and other drugs are procured. On the pastures of the table lands, many cattle, horses, and mules are reared; also llamas, used as beasts of burden on the high ridges. This region abounds in minerals, particularly silver, the mines of which, at Potosi and Gualgayoc, are the richest in S. America. [BULLION.] Quick-silver is obtained at Huancavelica, and gold occurs in several streams; iron, lead, copper, and brimstone are also found.

3. The "Eastern Plains," extending 187,000 sq. miles, consist of forests alternating in some places with savannas; the whole uncultivated; though, as far as known, this is the most fertile region of Peru. In the forests the Indians procure vanilla, sarsaparilla, copaiba, copal, caoutchout, and other gums and resins, which are sent to the Brazilian settlements on the Amazon.

Manufactures can scarcely be said to exist; and inland trade is impeded by the mountainous nature of the country, and the want of carriage roads, a defect not supplied by navigable rivers. But the maritime commerce is considerable, embracing, besides that proper to the country, the greater part of that of Bolivia, of which Arica and the other southern ports of Peru are the natural outlets. An active intercourse is maintained with the adjoining maritime states, to which

wine, brandy, salt, and other commodities are sent; but the most important is that with and the United States, to which Peruvian and Bolivian produce were exported in 1838 to amount (exclusive of \$259,823 of Colombian and Central American produce), of \$8,061,593, or 318. Of this, \$6,542,062, or £1,308,412, consisted of bullion; whereof, \$1,718,206 were from Bolivia, and \$4,823,856 from Peru: the remainder was made up of 31,008; wool, in value £93,485; 30,412 quintals cotton, £72,043; 129,610 quintals nitrate shipped wholly from Iquique, £51,844; besides 5479 quintals bark; 2742 dozen chinchilla; 2,073 quintals copper ore, or barillas; 8155 hides; 14,900 quintals sugar; and 6256 quintals.

The exports also embraced cinchona, sarsaparilla, and other drugs. About two-thirds bullion, and the great bulk of the other articles, were sent to Britain; the remainder mostly United States and France.

Imports consist chiefly of British manufactures, mostly cottons, but embracing likewise considerable quantities of woollens, linens, silks, and hardware; the whole (as valued in Britain), in 1838, 1839, and 1840, respectively, to £412,195, £635,058, and £799,991; which was composed of quicksilver and other foreign goods reshipped from Britain. A variety of manufactured articles are likewise brought from the United States and France.

1.—*Callao*, distant 6 miles from Lima, of which it is the port, lies on the N. side of a tongue in lat. 12° 4' S., long. 77° 14' W. It is well fortified; but the houses are mean-looking. Callao is the best on the Peruvian coast; and there is a rude pier accessible to large vessels. 60,749 tons of shipping entered, including 11,364 tons British.

2.—*Pisco*, farther S., in lat. 18° 28' S., long. 70° 24' W., is, owing to a heavy surf, of difficult and impracticable access, except on the inflated seal-skin floats or *balsas* of the natives. It is notwithstanding, a rising port, being the outlet of a rich mineral district, as well as the place to which the Bolivians receive European manufactures. About 25,000 tons of shipping enter annually, nearly one-half British.

3.—*Lambayeque*, *Pisco*, *Yslay*, and *Iquique*, are the chief other ports.

MEASURES, WEIGHTS, MONEY, FINANCES, &c.

Measures and Weights, same as Spain.

Money.—The integer of account is the dollar, usually estimated in Peru, in conversion to sterling, at 4s. The Peruvian dollar is at the rate of 8½ to the marc of silver, of standard of 10 dwts. 20 grains.

Finances.—The revenue is commonly stated at 1,000,000, or £1,000,000, but we have no recent account of it, or of the domestic debt. The foreign debts of three British loans,—£450,000 in 1822, at 88 per cent.; £750,000 in 1823, at 82 per cent.; and £616,000 in 1825, at

78 per cent. The interest, 6 per cent. per annum, rests unpaid from October 1, 1825.

A Treaty with Britain, June 5, 1837, provides for reciprocal protection to trade; places the two states mutually on the footing of the most favoured nations; exempts the subjects of the one country residing in the other from all compulsory military service, and in the event of war, is to allow them 6 months to wind up accounts; and contains a great variety of other regulations, for which see *Hertzel's Treaties*, vol. v. p. 383.

PERUVIAN OR CINCHONA BARK, a celebrated medicine obtained from the inner bark of trees (*Cinchona*) confined to the lofty Cordilleras of the Andes in Peru, between La Paz, in about 22° S. lat. and Santa Martha, near 10° N. Its febrifuge powers are said to have been made known in Europe in 1640, by the Countess Cinchona, wife of the viceroy in Lima, who had been cured by it. The bark is collected in the forests in the dry season, between September and November, and sent in bundles in the green state to the nearest inhabited place, where it is dried in the sun, the utmost care being requisite to protect it from wet, as even a few hours' dew falling on the half-dried bark will give to the interior a blackish tinge, and greatly lessen its value. The finest is said to come from single growing in the coldest and most elevated spots, but there are many varieties; mixtures and adulterations are also common, great experience is necessary to detect the finer kinds. Of these, the four following are distinguished by British physicians.

CROWN BARK (Sp. *Cascarilla fina de Uritusinga*), the produce of the *C. Condaminea* of Humboldt, found near Loxa, is quilled, straight, 6 to 15 inches long, from the size of a crow-quill of the thumb in diameter, and in thickness from 1-30th to 1-6th of an inch. Epidermis with external surface longitudinally furrowed, and crossed with fissures; it presents varieties of gray, irregularly covered with minute white lichens. Inner surface and powder of a brown colour. Taste, bitter, somewhat acid, aromatic, and astringent; odour, faint, and aromatic. The quills of middle size are preferred.

SILVER BARK (Sp. *Cascarilla provinciana*), also called silver bark, and Huanaco bark, derived from the *C. Scrobiculata* of Humboldt, is exported from Lima. It occurs in quills larger than the preceding, less furrowed, more uniformly grayish-white, inside redder, fracture closer and resinous; epidermis entire. Taste and odour nearly identical with crown bark. It is a new kind, but it comes mixed with ash-bark and rusty bark.

YELLOW BARK (Sp. *Cascarilla Calisaya*), the source of QUININE, is shipped at Arica, origin is doubtful. It occurs partly quilled and partly flat. The quills, larger than the crown bark, are 9 to 15 inches long, 1 to 2 inches in diameter, and 1-8th to 1-3d inch thick; yellow single, with the epidermis wrinkled longitudinally, and with transverse fissures; rough; brown, mottled with lichens. Inner surface smooth, and yellower than the preceding. Transverse fracture close but splintery. Taste and odour stronger than crown. The flat pieces, often stripped of their epidermis, are 8 to 18 inches long, and 1 to 4 inches broad. Good flat pieces are preferred to the quilled; and the finest are the middle-sized pieces, dense and close in texture.

Cuzco bark and Orange bark are sometimes substituted for this kind. **RED BARK** (Sp. *Cascarilla colorada*), also of unknown origin, consists sometimes of quilled, and sometimes of flattish pieces, from 2 inches to 2 feet long, 1 to 5 inches broad, and ¼ to ½

inch thick ; generally covered with the epidermis, which is rough, wrinkled, little fissured, reddish-brown, with grayish efflorescence in the hollows, from lichens. Taste very bitter and astringent. The quills, similar in size to those of yellow bark, are paler than the flat pieces. Red bark is scarce, dense, and rarely seen genuine.

The inferior, yet still genuine kinds, are chiefly,—Ash-bark, of unknown origin, mostly used for adulterating crown ; Rusty bark, imported from Lima, little esteemed, and in Britain purchased only for the German market ; White Loxa bark differs little from Rusty ; Hard Carthagena bark, and Woody Carthagena bark, both quilled and flat, are little valued ; Cuzco bark, a good species, very bitter, is rare in the English trade ; and Orange bark of Bogota, which resembles yellow bark, but is spongy, and feebly bitter ; it is rare in Europe. Pale bark is an old vulgar commercial term applied to inferior barks. The spurious barks used in adulterations are chiefly species of *E. acuminata*, Buena, and Strychnos. For farther details, we refer to Dr Christison's Dispensatory, the work chiefly used in compiling this article.

Cinchona bark is brought to the United Kingdom in chests or serons, from Chili and Peru. The quantity imported varies greatly from one year to another ; but on an average of the five years to 1841, it amounted to nearly 28,000 lbs., of which about 90,000 lbs. were entered for home consumption, and the rest re-exported to the Continent.

PETROLEUM, a bituminous kind of mineral oil : at the usual temperature it is rather thicker than common tar, and has a strong disagreeable odour. When exposed to the air it thickens, and passes into a species of bitumen. An oil similar to naphtha is obtained from it by distillation. It is principally found in coal districts. Its chief localities in this country are, Ormskirk in Lancashire, Coal Port near Colebrookdale, and Pomona, one of the Orkney Isles. In Asia it is found plentifully, and its uses to the inhabitants are important : from Mosul to Bagdad it is used instead of oil for lamps ; when mixed with earth or ashes it serves for fuel.

PEWTER is commonly made of 4 parts of tin and 1 of lead ; but a fine kind is said to consist of tin mixed only with a little antimony and copper. It is used in the manufacture of drinking-vessels ; formerly plates and dishes were also made of this alloy.

PHILIPPINE ISLANDS, an extensive group in the N. E. extremity of the Indian Archipelago, betwixt lat. 5° and 20° N., and long. 120° and 126° E. The chief islands are Luzon or Luçonia, Mindoro, Panay, Negros, Masbate, Zebu, Bohol, Leyte, Samar, and Mindanao. The whole are claimed by Spain ; but several of them are independent. Population subject to that kingdom, in 1837, 3,202,760, of which 2,364,807 were in Luzon : chiefly Papua negroes, Malays, and other Eastern tribes, with about 3000 Europeans. The government is vested in a captain-general, who has extensive powers. These islands have been possessed by Spain since 1564. They were taken by the British in 1762, but restored in 1764.

Few countries are more favoured as to soil and climate than the Philippines. The only disadvantages under which they labour are a very frequent exposure to tornadoes and typhoons, and a somewhat excessive moisture. The rainy and windy season generally lasts from May until September, sometimes so late as the beginning of December : in June and July, the winds sometimes blow with incredible fury in the N. part of Luzon. Notwithstanding their tropical latitude, the height of their mountains and sea-breezes prevent the heat from being oppressively severe ; and as a general spring continues a large proportion of the year, if the atmosphere were less moist, the climate would be unobjectionable. To this redundant moisture, however, must be attributed the great luxuriance of the country,—the trees being always covered with leaves and the soil with vegetation. The islands are capable of producing all colonial commodities. In several places there are mines of gold and iron, but they are not worked. The chief object of cultivation is rice, which, with fish, forms the ordinary food of the natives. The other products resemble those of tropical countries in general,—including sugar, chiefly cultivated in the plain of Pampanga in Luzon, coffee, and tobacco of superior quality, indigo, and a variety of commodities peculiar to the EASTERN ISLANDS : timber, well adapted for shipbuilding, is found in Luzon, also damer and a species of native hemp. Of late years the demand for opium in China has led to the introduction and cultivation of the poppy, for which the soil is well adapted. The cattle and horses introduced by the Spaniards have multiplied so much that they run wild among the mountains, and are destroyed in large numbers for the hides. Fish abound in the bays and creeks.

The geographical position of the Philippines is most favourable for commercial intercourse with India, America, Australia, and China. Their vicinity to China is indeed their most distinctive peculiarity, the E. end of Luzon being little more than 400 miles distant from the provinces of Fokien and Canton. This proximity has at different times excited the jealousy of the Chinese, and would alarm them still more if the Spaniards displayed energy and activity.

Manilla, the capital, and commercial emporium of the Philippines, lies in lat. 14° 35' N., long. 121° 2' E., in the E. corner of an extensive bay, on the S. W. coast of Luzon. It stands on the banks of the river Pasig, which is here about as broad as the Thames at Vauxhall. There is a bar at the entrance, over which there are only 12 feet of water at spring-tides, and ships anchor in roads about 1½ mile from the shore, except during the S. W. monsoon, from April to November, when they take shelter in Carite, a small port 3 leagues S. of Manilla. Population, including the native suburbs, 120,000. The foreign trade, before the revolution in Spanish America, was restricted to one galleon annually to Acapulco, but since that event it has been thrown open to other nations, and materially increased by intercourse with the British and Americans. The staple exports to the European market are sugar, indigo, rum, cigars, hemp, hides, cotton-wool, and casah ; and to China, rice, sapan-wood, edible birds' nests, and tripang. Small parcels of coffee, ebony, sulphur, pearls, mother-of-pearl, tortoise-shell, and cordage are also exported. European manufactures

including considerable quantities of British cottons and woollens, are imported through various channels.

Accounts are kept in dollars ; and the measures and weights are partly Spanish and partly Chinese.

PHOSPHORUS is usually obtained by acting upon powdered *bone-earth* with sulphuric acid. When pure, it is tasteless, colourless, or of a pale buff hue, semi-transparent, and flexible. Sp. gr. 1·770. When exposed to the air it undergoes a slow combustion, exhaling luminous fumes of a peculiar odour, and hence the necessity of preserving it in water. Phosphorus and some of its combinations are used in medicine, and for certain purposes in the arts.

PIANO FORTE. [MUSICAL INSTRUMENTS.]

PIASTRE, the dollar of exchange in Spain, where it is also called the *Peso de Plata*, is an imaginary money estimated at 8 reals old plate, or 15 reals 2 maravedis vellon ; and as the hard dollar [DOLLAR] is worth 20 reals vellon, the piastre is equivalent at par to 3s. 1½d. sterling. The piastre or piece of eight was formerly a silver coin worth about 4s. 6d., being in fact the old dollar. The piastre is also a coin and money of account in Turkey, where, however, it is now so much depreciated as to be worth only from 2d. to 2½d. sterling.

PIC, OR PIKE, a Turkish cloth measure, equal ¾ Imp. yard.

PILCHARD (Fr. *Sardine*, *Pélamide*. Ger. *Sardelle*. It. *Sardine*. Sp. *Sardina arenque*), a species of herring (*Clupea pilchardus*), about the same length as that fish, but having its body thicker and rounder, and its scales larger. It frequents the British seas, but is only found in great numbers on the shores of Devon and Cornwall, chiefly from Dartmouth to Padstow, round the Land's End ; the principal fishing stations are, St Ives, Mountsbay, St Mawes, and Mevagissey, where they arrive in shoals in August and September, and again in November or December ; and are caught both by scans and by drift-nets. They are sold on the beach at about 1s. per 100. Those intended for curing are first salted in heaps, and then packed into hogsheads, each containing about 2500 fish. The oil with which the fish abounds is afterwards extracted by pressure, 48 hhd. yielding about 1 tun of oil. The pilchard fishery is perhaps of less comparative importance at present than it was 70 years ago. An opinion prevails that it has been injured by the withdrawal, in 1827, of the bounty of 8s. 6d. upon each hhd. exported ; but though the temporary effect may have been severe, the permanent interests of the fishery will no doubt be benefited by the return to a more healthy system. At present about 3500 men are employed at sea, and 5000 men and women on shore. The capital directly invested in the fishery, in 1827, was stated by Mr Couch to Mr Yarrel to be £441,215 : it is now probably much less. The home market is almost entirely confined to Devon and Cornwall ; scarcely any reach London ; and it is stated as a reason for this, that they are not agreeable to the public taste. About 30,000 hhd. are annually exported, chiefly to Naples, Venice, Leghorn, Ancona, Genoa, and Trieste. The consumption at most of these places might, however, be greatly increased by a reduction of the present heavy duties.

PILOT, a person taken on board a ship at a particular place, for the purpose of steering it through a river, road, or channel, or from or into a port. Pilotage up and down the rivers Thames and Medway, and along the whole of the coast from Orfordness to the Isle of Wight, is regulated by the statute 6 Geo. IV. c. 125, which gives the appointment and general superintendence of pilots to the corporation of the Trinity House of Deptford Strond, excepting those under the Lord Warden of the CINQUE PORTS, who, however, act under similar regulations. The statute directs that no person shall, under the risk of incurring severe penalties, take charge of a vessel as pilot without a license from the Trinity House or Lord Warden ; and such license, which is only to be granted after an examination of the qualifications of the person seeking to obtain it, may be suspended in cases of negligence or misconduct. In other parts of the United Kingdom, pilots are appointed and regulated, either by local acts of Parliament, or by ancient charters of incorporation ; but several provisions in 6 Geo. IV. c. 125, are applicable to all parts of England.

In all those parts of a voyage where a pilot is employed by regulation or usage, termed " a pilot's fairway," one must be obtained (*Vide Abbot on Shipping*). The owner or master of a vessel having a pilot on board, licensed by the ordinary custom of the place, is not responsible for any damage which arises from neglect or want of skill on the part of the individual appointed. But his proceedings must not be controlled by the master. On the other hand, the presence of a pilot does not absolve the master from the consequences of injury caused by his own carelessness or want of skill.

In some foreign countries the term pilot is further applied to an officer whose special duty it is to steer the vessel during the general course of the voyage. No such officer, however, is known either in the British merchant-service or ships of war. In the latter, the charge of the helm is one of the many duties of the master and his mates.

PIMENTO (Fr. & Ger. *Piment*. It. *Pepe garofanato*), a small, dry, reddish-brown berry, the fruit of a tree (*Myrtus Pimenta*) common on the N. side of Jamaica, whence it is called Jamaica popper. It is also named Allspice, from its taste and flavour (qualities which reside chiefly in the cortical part of the berry) being supposed to resemble that of a mixture of cloves, cinnamon, and nutmeg. The berries are gathered before they are ripe, and dried in the sun; the smallest and most fragrant being preferred. The produce of the pimento crop, though sometimes very abundant, is variable; and there is seldom a plentiful harvest above once in five years. A corresponding fluctuation occurs in the annual importations into Britain, which vary from about 1,000,000 lbs. to upwards of 3,000,000 lbs. With the exception of a small quantity from the United States and other places, pimento is imported wholly from Jamaica, the produce of which has declined considerably of late years. It is packed either in bags or hogsheads. On an average of the five years to January 1842, the quantity imported was 1,181,435 lbs.; entered for home consumption, 304,164 lbs. The excess of the former above the latter was re-exported to the Continent, and to British America and Australia.

PINCHBECK, a factitious metal resembling brass, but containing more copper.

PINE, a family of trees (*Pinus*) mostly inhabiting the northern parts of Europe and America. They almost all affect siliceous sandy soils, but many will flourish in rocky and comparatively barren lands. The trees are various in size. Their chief use is in domestic architecture; whence the pine has been called "the builder's tree." Having usually, however, a long, straight, conical, undivided trunk, several kinds are prized for ship-masts. They all yield resinous matter. The chief species are the following:—

THE COMMON PINE OR SCOTCH FIR (*P. Sylvestris*).—This species, of which there are many varieties, stands in the first rank of forest trees, whether as regards its hardy habits, its rapid growth, or its value in the production of useful timber, the "red deal" of the carpenter. The best is that nearest the root. In Scotland, the fir often acquires a great size, the climate being well suited to it. In England, it is chiefly valued as a screen or nurse to other trees. Dense forests of it cover the mountainous tracts of Northern Europe, the timber of which, with its resinous products, TAR, PITCH, and TURPENTINE, forms the great staple of many of the Baltic states. The finest is the Norwegian: that shipped from Memel, Riga, and Dantzic is inferior to it, though still good.

THE COMMON OR WHITE LARCH (*P. Larix*), a native of Switzerland, Russia, and Siberia, grows very erect, with drooping branches, gradually diminishing from the base, and giving it a pyramidal form. No tree has received greater attention in modern times from the British planter. It was introduced into Scotland by Lord Kames in 1734; many millions were afterwards planted on the Atholl estates; and it is now extensively cultivated upon barren exposed land throughout Britain. It grows rapidly, and produces timber of great excellence, both for domestic purposes and shipbuilding: it is equally good throughout its thickness, possessing no sap-wood. The larch also yields "Venice turpentine," and its bark is nearly as valuable as that of the oak.

THE NORWAY SPRUCE FIR (*P. Abies*), which attains a height of 150 feet, constitutes, with larch, the greatest proportion of the vast woods of Norway and Sweden. It is inferior to larch, though durable and of a fine even grain. In the market it is called white or Christiania deal. The tree attains a large size on cold damp clays, situated on declivities.

THE BLACK OR RED SPRUCE FIR (*P. Nigra* or *Rubra*) grows in the most inclement regions of N. America, especially in swampy valleys having a deep black soil. Its timber—strong, light, and elastic—is of great value. It is employed for the yards of ships, and, in districts where oak is scarce, also for their knees; though apt to split, floors are also occasionally laid with it. The White Spruce (*P. Alba*), often found along with it in America, is smaller, and yields inferior timber.

THE WEYMOUTH OR AMERICAN WHITE PINE (*P. Strobus*), with an erect and lofty trunk, is a native of Canada and of the more northern districts of America. It grows very fast in sheltered situations and moderately moist sandy soils; and produces the clean, white, soft, but perishable timber, called in America "Pine," largely exported in the form of deals both to Europe and the West Indies. It is also much used in shipbuilding.

THE YELLOW PINE (*P. Mitis*) is a fine tree, inhabiting the pine forests of North America, yielding timber of great value both for domestic and naval architecture, provided the sap-wood is removed. In Britain it is regarded as very durable, and in America it ranks next to

THE SOUTHERN PINE (*P. Australis* or *palustris*), the best species in the New World. This tree is a native of Virginia and Carolina, where it grows from 60 to 70 feet in height, with a trunk from 15 to 18 inches in diameter for 2-3ds of its length. It produces light, clear, and durable timber, which is extensively used in shipbuilding, especially for masts; also abundance of tar.

The chief other species are the Cedar [*CEDAR*]: the Red Pine (*P. Resinosa*) of Canada, yielding a fine-grained strong durable wood of a close texture; the Corsican Pine (*P. Laricio*), a noble tree of S. Europe, extensively used by the French in shipbuilding; and the Silver Fir (*P. Picea*), largely grown in the kingdom of Naples. The Hemlock Spruce Fir of N. America yields wood of little value; but a great deal of the essence of spruce is obtained from its shoots, and its bark is exceedingly valuable. [TIMBER.]

APPLE, the well-known succulent fruit of a tropical plant (*Ananassa* digenous to America and the W. Indies, but commonly reared in hot-pots in Britain. It is the most luscious fruit produced in this kingdom, noble appearance has always rendered it a special object of horticultural . In England it has been obtained of a size weighing 14 lbs. In its state it is inferior ; and except perhaps the Burmese pines, the most specimens are the produce of this country.

ROOT. [SPIGELIA].

Fr. Epingles. Ger. Stecknadeln) are made on a great scale at Birmingham some manufacturers employ several hundred persons in the fabrication of steel instruments ; they are also largely produced at Warrington, Sheffield, and London. Of late several beautiful inventions have been successfully employed to make pins almost entirely by machinery. The number daily produced in this country for home use and exportation is estimated by Dr Ure at fifteen

a British measure equal $\frac{1}{4}$ th part of a gallon. [MEASURES.]

a wine measure varying in different places. [MEASURES. WINE.]

CLAY, a very plastic and tenacious kind of clay, of a grayish or yellow-colour, found near Poole in Dorsetshire, in the Isle of Purbeck, and other parts ; it is manufactured into tobacco-pipes ; and is besides used as the basis of earthenware pottery, as well as a detergent by scourers of cloth.

CHIONUTS (Fr. *Pistaches*. Ger. *Pistachen*. It. *Pistacchi*, *Fastucchi*), the dessert and for confections, are the fruit of a small tree (*Pistacia vera*) native to Syria and Persia, but now naturalized in the S. of Europe. They are usually large, of a red or pink colour, and contain a greenish kernel, having a sweet, unctuous taste, resembling that of almonds. They are imported from Turkey, France, Sicily, and other places.

LE, a Spanish gold coin, equal $\frac{1}{4}$ th of the DOUBLOON.

RESIN, a substance made by melting coarse hard resin with a portion of tar, one-half ; but the quantity is increased or lessened according to the condition of the latter.

BLEND, a ponderous metalliferous ore, of a blackish colour, much valued by porcelain painters. Localities—Saxony, Bohemia, Hungary, and Cornwall. The name given to a box kept at the British mint, in which a small sample of coins struck are deposited, in order to be assayed and compared with a standard preserved in the Exchequer. This operation, called the “ Trial of the Coin,” is performed in presence of certain members of the Privy Council, the officers of the mint, and a jury of the Goldsmiths’ Company. An account of this ancient ceremony will be found in Ruding’s “ Annals of the Coinage.” It now usually takes place on the appointment of a new master of the mint before his predecessor discharges.

SOLE, a species of flounder (*Platessa vulgaris*) taken in abundance on the coasts of Britain and Ireland. It spawns in February or March ; and is in the season for the table at the end of May.

PLATINUS, a British forest tree (*Platinus*), admired for its beauty ; but of little value except for fuel.

BANANA, a delicious fruit, yielded by the *Musa sapientum*, a plant about 10 feet in height, found in most tropical countries. It closely resembles an apple ; is at first green, but when ripe of a pale yellow colour, about a foot long and nearly two inches in diameter. In favourable situations, however, it is found of nearly a foot in circumference, with a length of seven or eight ; and each sometimes contains from 160 to 180, and weighs from 66 to 88 lbs. It is usually cut when unripe ; and after being skinned is roasted and served up.

It is also used for fattening domestic animals. [BANANA].

JASPER, a green, semi-transparent calcedony, having a dark tint, which is coloured by chlorite. It is found chiefly in India, and is brought to Europe in the shape of beads and other ornaments ; occasionally specimens are found among the ruins of Rome.

ARGENTINA, LA, REPUBLIC. [BUENOS AYRES.]

GOLD AND PLATED WARES. Plate is a term applied to gold and silver when applied to furniture or ornaments. Plated wares are articles made, in imitation of the preceding, of base metal, coated over with gold or silver. The gold-trade is carried on in London, and, though to an inferior extent, in Birmingham, Dublin, Edinburgh, Glasgow, and Liverpool. Silver and silver-plated

goods are made chiefly in London, Birmingham, and Sheffield. The quantity of gold and silver articles manufactured in the United Kingdom is considerable; but beyond the produce of the duties, mentioned below, we possess no data for computing its amount. The value of plated wares annually consumed has been estimated so high as £1,200,000.—this department having derived great advantage from the perfection of the machinery now used in this country for rolling metals; while it has no doubt likewise received encouragement from the heavy duties imposed on gold and silver articles. The declared value of the plate, plated ware, jewellery, and watches, exported from the United Kingdom, in the years 1836, 1840, and 1849, amounted respectively to £240,584, £274,305, and £204,427; sent chiefly to India, the colonies, and the United States.

ASSAY REGULATIONS, LICENSES, DUTIES, AND DRAWBACKS.

Assay Regulations and Marks.—Articles of gold better than the money of 22 carats, or $\frac{21}{20}$ ths, the money standard, or of 18 carats: the latter being only permitted for watches and rings. Silver must be of the fineness of 11 oz. 2 dwts., or $\frac{3}{4}$ ths, the money standard, or of 11 oz. 10 dwts.; but the latter, called "new sterling," is seldom used. [CARATS. C. 18.]

All gold and silver articles of the money standard are marked with the following devices: in England a lion, in Scotland a thistle, and in Ireland a harp of 11 bars. The gold standard of 22 carats is in addition marked with the number 18, and the new sterling with the figure of Britannia.

Articles of all standards capable of bearing a stamp are also marked with the maker's initials, the name and place of the assay office, and a letter indicating the year. The device of the Goldsmiths' Co. in London is a leopard's head; of the Assay Office, Birmingham, an anchor; of Sheffield, a crown; of Newcastle, three castles; of Dublin a harp and crown; of Edinburgh, a castle; and of Glasgow, a tree with a bell and fish. The letter used by the Goldsmiths' Company indicates the year by beginning the alphabet in May 1790, and proceeding on to 26 letters progressively, commencing again with U. The first 20 years is represented by a Roman capital: the second, commencing May 1810, by small Roman characters; the third, commencing May 1836, by old English capitals.

On articles for which a duty is paid, an impression of the duty stamp is likewise stamped.

The stamps of the articles assayed are kept in each office in the "Pix," or "Diet Box," in order to be proved before the proper officers.

Duty of Export. payable in Britain by dealers in gold and silver plate, in which gold exceeding 2 oz. and under 2 1/2 oz. of silver exceeding 5 dwts. and under 1 lb. is contained in one piece, £2. 6s.

When of greater weight, the cost of the license is £3. 10s. and every pawnbroker and refiner of gold or silver plate must take out this license.

Gold or silver lace is not deemed plate.

Stamp Duty in Britain on plate made since August 31, 1817: namely, gold, 17s. per oz.; and silver, 1s. 6d. per oz. **Exemptions,** gold watch-cases, rings, and any articles of gold not exceeding 2 oz. in weight; silver watch-cases,

chains, necklaces, beads, lockets, filigree work, shirt buckles or brooches, stamped medals, and spoons to china, stone, or earthenware teapots, of any weight whatever; tippings, swages, or mounts, not weighing 10 dwts. of silver each, and not being necks or collars for castors, crucets, or glasses appertaining to any sort of stands or frames; wares of silver, not weighing 5 dwts. each: this exemption is not to include necks, collars, and tops of castors, crucets, or glasses appertaining to any sort of stands or frames, buttons to be affixed to or set on any wearing apparel, solid silver buttons and solid studs, not having a bezelled edge soldered on, wrought seals, blank seals, and bottle tickets, shoe clasps, patch boxes, salt spoons, salt ladles, tea spoons, tea strainers, caddy ladles, buckles, and pieces of garnish, cabinets, knife cases, tin chests, bridle stands or frames. (52 Geo. III. c. 50; 55 Geo. III. c. 185; 1 Geo. IV. c. 10; 6 & 7 Wm. IV. c. 69.)

In Ireland the duty, formerly 1s. per oz. on both gold and silver plate, was raised in 1842 (Oct. 18) to the same rates as in Britain.

On the exportation of Irish plate to Britain: countervailing duty of 16s. per oz. was formerly payable on gold, and 6d. per oz. on silver; equivalent drawbacks being allowed on the exportation of British plate to Ireland; but these are now abolished.

The net produce of the stamp-duties on plate was in 1820, £86,750; 1830, £81,646; and in 1840, £82,968; about 1-18th being from gold.

On exportation to other countries the whole duties are drawn back, debentures for which are issued at the custom-house; though, in London, the drawback is payable at Goldsmiths' Hall.

Previous to entry for drawback, bond to be given that the plate shall not be re-loaded, and declaration made as to the stamping and time of manufacture; which bond remains in force until the exporter produce to the collector the bills of lading, having at the foot the receipt of the master of the vessel, and on the back that of the consignee; describing the kind and quantities of plate so shipped, together with the name of the consigner. If the ship be lost, or return not within three years, the bond, on proof thereof made to the collector, shall be cancelled. (5 Geo. III. c. 64.)

PLATINUM, a metal of a colour between steel-gray and silver-white. Sp. gr. 21.5. It is very hard, and possesses great malleability and ductility. It may be beaten into fine leaves, and drawn into wire not exceeding 1-2000ths of an inch in diameter. When about 1-13th of an inch thick it sustains a weight of 270 lbs. This metal is extremely difficult of fusion; but it has the property of being united by *refining* either one piece to another, or with iron and steel. This property admits of useful applications in the arts; wires may be joined so as to form rings and chains; and, with a view to economy, platinum may be attached to iron or steel for many scientific purposes. The perfection with which vessels of platinum resist the action of heat and air, of most of the acids, and of sulphur and mercury, renders them peculiarly valuable in many chemical applications; and, notwithstanding the

high value of the metal, which is worth between four and five times its weight of silver, it is now much employed for crucibles, retorts for the distillation of sulphuric acid, mirrors for reflecting telescopes, and also by gunsmiths. In Russia it is made into coins.

Platinum was discovered about 1741 ; but it attracted little notice until the mode of purifying it and rendering it malleable was discovered by Dr Wollaston. It is found in the metallic state in Brazil and Peru ; in Antioquia in South America ; in Estremadura in Spain ; and lately in considerable quantities in the Uralian Mountains. The general appearance of it in the rough state in which it is imported is that of small grains or scales, darker than silver, and extremely heavy.

PLEDGE. [PAWN.]

PLUM, the well-known fruit of a tree (*Prunus domestica*), indigenous to the greater part of the northern hemisphere. Of this fruit no fewer than 274 varieties are enumerated in the Catalogue of the Horticultural Society. Dried plums form an article of commerce under the name of prunes and prunelloes. They are largely imported into this country, especially from France. The timber of the plum-tree is close and strong ; and the bark may be used in dyeing yellow.

PLUMBAGO, or **BLACK LEAD**, is the well-known opaque blackish-gray glistening substance used in the manufacture of pencils, for which purpose the best is that procured near Borrowdale in Cumberland. [PENCIL MANUFACTURE.] An inferior soft kind is imported from the East Indies. Plumbago is also employed for making crucibles, in compositions for protecting iron from rusting, and for diminishing friction in machinery.

POLACCA, a vessel with three poles or masts, each of one piece, so that the topsails, on being lowered, can slide down without interruption. This form of rig originated in the suddenness and frequency of squalls in the Mediterranean, where alone vessels of this kind are used.

POLICY OF INSURANCE is the written instrument under which the contract of insurance is effected.

In **MARINE INSURANCE**, there are two descriptions of policy—open, and valued. In the former, the pecuniary amount of the interest insured is not stated, but remains to be afterwards adjusted. In the latter, a value is set on the interest insured, and being assented to by the underwriter, it is presumed to be the real value, and to be the sum payable in case of loss. A nominal valuation, however, will not be sanctioned as a cover to a wager or a fraudulent transaction ; and if the insured be found to have designedly over-valued his interest, he will not recover even for the loss actually sustained. The amount which should be covered by a valued policy, is the real value of the ship, or the prime-cost of the goods, as the case may be, at the time of effecting the policy, together with the amount of the premiums and other expenses of insurance. The provisions of the 19th Geo. II. c. 37, which prohibit wager-policies, are satisfied if there be an interest, however inadequate to the value put upon it ; and it appears to be the general principle that, except where there is fraud, such value is the final adjustment between the parties in the case of *total* loss. In the case of *partial* loss, there is no difference between a valued and an open policy. Before a policy is effected, the terms on which the underwriters will subscribe it are, at Lloyd's, generally noted on a "slip," which is signed by their initials. It has been decided that, unless it be stamped, this document cannot be received in evidence to contradict the policy, and it does not appear what stamp would be applicable. (*Park*, 347.) By statute, 11 Geo. I. c. 30, § 44, when an insurance is effected, a policy must be made out within three days, under penalty of £100. The usual form of the policy, as kept up by the old exclusive companies, is antiquated and cumbersome ; but, with these disadvantages, it is supposed to have in its favour the conventional meaning which usage and a course of decisions have given to its terms. The following is the form :—

" In the Name of God. Amen.

" A B, as well in his own name, as for and in the name and names of all and every other person or persons to whom the same doth, may, or shall appertain, in part or in all, doth make assurance, and cause himself, and them, and every of them, to be insured, lost or not lost, as and from

Upon any kind of goods and merchandises, and also upon the body, tackle, apparel, ordnance, munition, artillery, boat, and other furniture of and in the good ship or vessel, called the

whereof is master, under God, for this present voyage, E T, or whosoever else shall go for master in the same ship, or by whatsoever other name or names the same ship, or the master thereof, is or shall be named or called ; beginning the adventure upon the said goods and merchandises from the loading thereof aboard the said ship,

upon the said ship, &c. and so shall continue and endure during her abode there, upon the said ship, &c. And further, until the said ship, with all her ordnance,

tackle, apparel, &c., and goods and merchandises whatsoever, shall be arrived at upon the said ship, &c., until she hath moored at anchor twenty-four hours in good safety; and upon the goods and merchandises until the same be there discharged and safely landed. And it shall be lawful for the said ship, &c., in this voyage, to proceed and sail to, and touch and stay at, any ports or places whatsoever,

without prejudice to this insurance. The said ship, and goods and merchandises, &c., for so much as concerns the assureds, by agreement between the assureds and assurers in this policy, are and shall be valued at . . . Touching the adventures and perils which we the assurers are contented to bear, and do take upon us in this voyage: they are of the seas, men of war, fire, enemies, pirates, rovers, thieves, jettisons, letters of mart and counter mart, surprisals, takings at sea, arrests, restraints, and detentions of all kings, princes, and people, of what nation, condition, or quality soever, barratry of the master and mariners, and of all other perils, losses, and misfortunes that have or shall come to the hurt, detriment, or damage, of the said goods and merchandises, and ship, &c., or any part thereof. And in case of any loss or misfortune, it shall be lawful to the assureds, their factors, servants, and assigns, to sue, labour, and travel for, in and about the defence, safeguard, and recovery of the said goods, and merchandises, and ship, &c., or any part thereof, without prejudice to this insurance; to the charges whereof, we the assurers will contribute each one according to the rate and quantity of his sum herein assured. And it is agreed by us the insurers, that this writing or policy of assurance shall be of as much force and effect as the surest writing or policy of assurance heretofore made in *London Street*, or in the *Royal Exchange*, or elsewhere in *London*. And so we the assurers are contented, and do hereby promise and bind ourselves, each one for his own part, our heirs, executors, and goods, to the assureds, their executors, administrators, and assigns, for the true performance of the premises, confessing ourselves paid the consideration due unto us for this assurance by the assured at and after the rate of

"In Witness whereof, we the assurers have subscribed our names and sums assured in . . ."

It is usual to add the following provision as to liability for average losses in the case of certain destructible commodities:—

"N.B.—Corn, fish, salt, fruit, flour, and seed, are warranted free from average, unless general, or the ship be stranded.—Sugar, tobacco, hemp, flax, hides, and skins, are warranted free from average, under £5 per cent.—And all other goods, also the ship and freight, are warranted free from average, under £3 per cent. unless general, or the ship be stranded."

The requisites of a policy are generally divided into nine, which are,—

1st, *The Name of the Insured*.—By 28 Geo. III. c. 56, policies without the name or firm of the parties interested, or of the consigner or consignee, or of the person residing in Great Britain receiving the order for or effecting the policy, or of the person giving directions to effect the same, are null. Where the persons interested were designed "The Trustees of Messrs Keighley, Ferguson, and Co.," the requisites were considered as complied with (1 *Camp*. 538).

2d, *The Name of the Ship and of the Master*.—A material misunderstanding in this respect will vitiate the contract; but to meet the effect of a mere mistake, it is usual to say, "or by whatsoever other name or names the same ship or the master thereof is or shall be named or called;" and where there is no mistake as to identity, these expressions will protect the policy. If a merchant cause three several parcols of goods to be insured for three different ships, and find it convenient to load the whole in one, it is held that he can only recover in the event of a loss for the amount nominally insured on board that vessel. It is a long-established practice to insure upon goods "on board any ship or ships," from a particular port; but it is said that this vague definition ought not to be adopted where the ship is known, as it "seems to amount to a representation, that the party effecting the insurance does not know in what ship the goods are to be brought." (*Marshall*, 321, 322.)

3d, *The Subject-matter insured*.—It is not necessary minutely to describe the property, farther than to the effect of exactly identifying it, and letting the underwriter know his risk. The usage of trade is consulted as a clue to the import of expressions which may not have a distinct meaning of their own, but will not be allowed to contradict what is clearly expressed. The word "goods" will be held to include an ordinary cargo, stowed away in the proper manner, but not goods lashed on deck (unless they be such as it is proper and usual so to bestow, as vitriol), nor the captain's clothes and the ship's provisions. Where the interest is of the nature of a factor's lien, or of that description, it will be covered by a policy on "goods;" but freight must be specially insured by name. Money, jewels, and bullion may be insured as goods, if they are part of the cargo, and not on the persons of passengers.

4th, *The Commencement and Termination of the Voyage, and the consequent Duration of the Risk*.—If a blank be left for the port of departure, or for that of destination, the policy will be void from uncertainty. It is said, however, that an omission as to time, when the risk is measured by the time, will merely have the effect of making it commence with the execution of the policy. The expression "at and from the ship's loading port," covers loss sustained before departure, un-

less there be undue delay ; to cover which the expression "*in port*" is considered necessary. Though the commencement and termination of the risk be distinctly expressed, if there is any thing in the terms calculated to deceive the underwriter as to those of the voyage, the insured will not recover ; as, where a ship and goods were insured "at and from the coast of *Brazil* to the Cape of Good Hope, beginning the adventure on the goods, from the loading thereof on the coast of *Brazil*, and upon the ship in the same manner," and the goods were taken on board at the Cape, and carried to the coast of *Brazil*, where they were not unloaded, the risk was found not to have attached. (*Robertson v. French*, 4 *East*. 130.) The risk was in fact here described as commencing with the voyage, whereas it commenced during the voyage. Insurance from several ports of departure does not cover a voyage from one to another. The insurance on goods is generally limited till the time when they are "discharged and safely landed ;" and these operations must be conducted without undue delay. The underwriter is liable if the loss happen after transshipment into shallops, lighters, droghers, or launches, unless they be those of the insured.

5th, The Perils insured against.—These must be distinctly enumerated ; and they are described in general expressions, well understood in practice, from their long and unvarying application. It is usual to insert the words, "lost or not lost," by which the insurer takes upon himself the loss which may have already happened,—a term said to be peculiar to English insurances.

6th, The Premium or Consideration.—This is always expressed as received, and so the engagements are entirely on one side, namely, that of the underwriter. In practice, however, the premium is not paid to the underwriter, but stands in account between him and the broker. [BROKER.]

7th, The common Memorandum, as given above, inserted to protect the underwriter from small losses on perishable commodities. In that form, an exception may be observed, of the ship being "stranded." This has been found to be "a condition ;" so that if stranding take place, the insured is admitted to prove all his partial loss, whether directly occasioned by the stranding or not. On this being decided, in 1754 (*Contillon v. London A. C.*, *Marshall*, 216-225), the London and Royal Exchange Companies left the alternative of "stranded" out of their policies. Where there is no stranding, there is no recovery for the articles enumerated in the memorandum, unless the loss be total ; and so it was found where a cargo of fruit, having been captured and recaptured, was brought to the port of destination damaged 80 per cent. by the delay. (*Park*, 185.)

8th, The Date and Subscription.—It is the practice at Lloyd's not to insert the date in the body of the deed, but for each underwriter to attach it to his subscription.

9th, The Stamp.—This is regulated by 55 Geo. III. c. 184, amended by 3 & 4 Wm. IV. c. 23. A policy cannot legally be stamped after it is executed ; but, by 9 Geo. IV. c. 49, policies of mutual insurance, by which persons undertake to insure one another, may be fortified with additional stamps, if not underwritten to an amount exceeding that covered by the former ones. By 35 Geo. III. c. 63, § 13, the stamp laws do not extend "to prohibit the making of any alteration which may lawfully be made in the terms and conditions of any policy of insurance duly stamped, after the same shall have been underwritten, or to require any additional stamp-duty by reason of such alteration, so that such alteration be made before notice of the determination of the risk originally insured, and so that the thing insured shall remain the property of the same persons, and so that such alteration shall not prolong the term insured beyond the period allowed by this act, and so that no additional or further sum shall be insured by means of such alteration." This clause is liberally interpreted in the case of correction of mistakes, or improvement of definitions, provided the thing originally intended to be insured be not altered. An extension of the time of sailing, and a waiver of the warranty of sea-worthiness, do not require a new stamp, nor does the alteration of a voyage "from Stockholm to Swinemunde," to one from Stockholm "to Swinemunde, Königsberg, or Memel ;" nor of a risk "at and from Liverpool to Quebec," to one "from Liverpool to St John's, New Brunswick." But the terms of the original policy cannot be so altered by any memorandum as to bring it into a class requiring a higher duty, without affixing the stamp thereby required (*Smith's Mercantile L.*, 302). The regulations for returning spoiled stamps will be found in 54 Geo. III. c. 133.

(*Park on Insurance. Marshall on Insurance. Smith's Mercantile L.*, 268-334.)

For INSURANCE AGAINST FIRE, the policy, after reciting the receipt of the premium, generally bears that the insurers "covenant and agree, from a day named,

and unto and inclusive of another day named, and so long as the insured continues to pay the premium, that the funds of the company shall be liable to make good any such loss as may happen by fire (except it be occasioned by any invasion, foreign enemy, civil commotion, or any military or usurped power),” to the property specified. The terms should express a covenant or agreement, such as may found a clear right of action against the parties, or those they represent, for an order or direction to pay merely founds an equitable claim. It is usual to introduce the scale of premiums applicable to the different risks by indorsement on the policy, referring to them so as to make them part of the contract. The policy must accurately describe the premises, and give the name of the insured. There is no such distinction as that of valued and open policies, the loss being in the usual case restricted, but not measured. An Average clause, however, is now not of uncommon occurrence, by which, when the property is of greater value than the amount insured, the insured recovers, in the case of a partial loss, a sum bearing that proportion to the loss, which the sum covered by the insurance bears to the value of the property. Thus, if the property be worth £1000, and the amount insured be £100, if a loss be caused to the extent of the £100, £10 only is recovered. By 9 Geo. IV. c. 13, § 1, where the insurance covers two detached buildings, or goods contained in detached buildings, so separated as to create a plurality of risks, a distinct sum must be insured upon each, with an exception in favour of implements and stock upon one farm. A policy of insurance is assignable at any time before a loss, to any one to whom the interest insured may have passed. The offices generally give notice upon the policy that “it shall be of no force if assigned, unless such assignment be allowed by an entry in the books of the office, or indorsed on the policy;” and “even without this provision, upon the general principles of law, it is very questionable whether the holder could have any legal demand against the insurers without notice to them” (*Ellis*, 70). By 55 Geo. III. c. 184, the stamp-duty is 1s. for each policy, and 3s. a-year for every £100. Public hospitals, and (by 3 & 4 Wm. IV. c. 23, § 5) agricultural produce, farm-stocking, and implements of husbandry, are exempt. (*Ellis on Fire and Life Insurance*.) [INSURANCE, FIRE.]

In LIFE INSURANCE, the policy generally bears that a certain sum is payable at a certain time after the death of the person insured, should he die within the year, or within any succeeding year in which he has duly paid the premium; on the precedent condition that he is at the time of the contract of a certain specified age and habit of body, as contained in a separate declaration by the insured. There are generally certain restrictions on the conduct of the insured. A policy of insurance is assignable; but in terms of the act 14 Geo. III. c. 48, prohibiting wager insurance, the assignee must have an interest [but see INSURANCE ON LIVES]. A policy by a creditor falls if the debt be in any manner paid. An assignment of a policy by the debtor on his own life is a preferable security. “It may be considered as the law,” says Mr Ellis, (p. 144), “that the assignment of a policy of insurance upon a life will not take it out of the *order* and *disposition* of the assignor, within the meaning of the bankrupt laws (and probably also of an insolvent under the insolvent act), unless notice of the assignment be given to the insurers before the bankruptcy, and that the policy, in defect of notice, will vest in the assignees, notwithstanding the assignment.” (*Ellis on Fire and Life Insurance*. *Blayney on Life Assurance*.)

POMEGRANATES (Fr. *Grenades*. It. *Granati*. Por. *Romaas*. Sp. *Granadas*) are the produce of a low tree, the *Punica granatum*, common in the warmer parts of the temperate zone. This fruit when ripe is about the size of an orange, is covered with a hard light brown rind, and contains a reddish, seedy, refreshing pulp. Pomegranates are imported into Britain from the W. Indies and S. of Europe.

POOD, a Russian weight equal 16½ kilogrammes, or 36 lbs. avoird. nearly.

POPLAR, a fast-growing tree (*Populus*) common in the northern hemisphere, of which there are about 15 species, all delighting in moist situations. The wood of the forest species, chiefly the common gray, abele or white, black, Lombardy, aspen, and Canadian, are used in the manufacture of domestic utensils; that of the abele, largely cultivated by the Dutch, is also useful for water-works, laths, and packing-cases; but upon the whole the timber is of little value.

PORTS. [UNITED KINGDOM OF GREAT BRITAIN AND IRELAND.]

PORTUGAL lies between lat. 37° and 42° N., and long. 6° and 10° W.; and is bounded N. and E. by Spain, and S. and W. by the Atlantic. Divisions,—Tras-os-Montes, Entre Douro e Minho, Beira, Alentejo, Estremadura, and Algarve. Area, 36,500 sq. miles. Population in 1838, 3,550,000. Government, a hereditary monarchy, with two chambers, both elected by the people.

Portugal is not separated by any natural boundaries from Spain, which in general aspect is

les: the mountains are chiefly prolongations of the Astorga, Castilian, and Toledo chains, the Douro running from N. E. to S. W., but throwing off numerous branches; while again, the Tagus, as the Douro and the Tagus, flowing E., and the Guadiana S.,—are merely the prolongations of Spanish streams. There are only two extensive plains; one, the plain of Alentejo, the other S. of the Douro; but there are numerous fertile valleys between the mountains. The climate varies much in different places: on the coast it is very warm, especially at Cape Roca; and some parts of Alentejo are so arid as to be uninhabitable, from the hardness and badness of the water; yet there are abundance of rich tracts in other districts, to the productions of which considerable variety is given by the difference of elevation and of latitude.

The long-continued imbecility of the government, joined to the power as well as profligacy of the nobles and clergy, and the indolence of the people, have sunk the industrial arts in Portugal below almost any other European state. The events connected with the late war laid the foundation of a new order of things; and a constitutional government has been established, by which feudal rights and monastic institutions have been abolished, an equal system of taxation introduced, and the country placed on the road to improvement. Still, this is of too recent accomplishment to have produced much effect on the wealth and habits of the people; want of capital, and crime, are yet conspicuous, especially in the central and southern provinces; and in most departments of industry and knowledge, this kingdom, to use the words of a recent traveller, forms a subject of disgraceful wonder in the midst of the 19th century."

The chief rural productions are—on the high grounds, wheat, oats, barley, flax, and hemp; in the lower districts, vines and maize; and on the low grounds, rice; while in the sheltered valleys of the north and central parts, oranges and lemons are produced, and the olive and other fruits are raised in various places. The live-stock are principally goats, hogs, and sheep; the last mostly in the north. The chief woods are, in the N. oak, in the central provinces chestnut, and in the S. cork, and pine. Minerals are abundant, but scarcely any mines except those of iron are worked. Salt is largely produced in the bays, especially in the lagoon of St Ubes or Setúbal.

Manufactures, except perhaps the plate and jewellery of Lisbon, are inconsiderable: coarse woollens and linens are made in various provinces; silks near Lisbon; glass at Marinha Grande; paper at Alcobaça and Thomar; and paper, earthenware, and other articles, in various places. There is a little internal trade, owing to the limited number of carriage-roads, while the rivers are almost perfectly navigable: mules form the chief means of conveyance.

The great staple of the country is wine, particularly the red variety called port, from Oporto, the chief port of shipment. This wine, produced about 50 miles above that town, on a succession of low hills, both sides of the Douro, is generally divided into two sorts; the *vinho do ramo*, an inferior wine for home consumption and distillation into brandy, and the *vinho do feitoria*, or factory wine, for exportation. In 1756, the government, ostensibly to prevent adulteration, made over the right of exportation to the "Oporto Wine Company," who were authorized to class the wines, and fix a maximum price. This company was suppressed as a nuisance by Don Pedro, in 1834, but was again re-established in 1838, though with less oppressive privileges than at first, for a period of 20 years. The annual average quantity exported in the 3 years ending 1840, was 34,790 pipes, of which, 25,965 were shipped to Britain (equivalent in value to about £800,000), 3962 to the United States, and 2363 to the N. of Europe and the Portuguese colonies. Considerable quantities of white wine are besides sent from Portugal, chiefly from Lisbon, Bucellas, and Vila Real; also, though in small quantity, a strong but inferior red wine, from Figueira. [WINE.] The principal commercial relations are with the United Kingdom, with which an intimate connection has been maintained since the beginning of last century. This originated on the side of England, partly from jealousy of the pretensions of Louis XIV. to the crown of Spain, and partly from the attachment to Portugal, from her not being a manufacturing country, and likely in the eyes of the calculators of the day to be so much the more advantageous as a customer; reasons which partly led, in 1703, to the celebrated Methuen treaty, the object of which was to favour the importation of Portuguese wines in return for a similar preference to our manufactures. The trade has then established have undergone several changes; but the deep-rooted taste for port in England has preserved the trade as great as ever.

Exports to the United Kingdom, besides wine, annually embrace about 100,000 packages of cork, and lemons, from 50,000 to 60,000 cwts. cork-bark; also olive-oil, sheep's wool, sumach, figs, and other fruits, and small quantities of tallow, brandy, and other articles. The value of British produce and manufactures annually sent to Portugal averaged in the five years ending 1835, £1,127,664, and in the five years ending 1840 £1,115,463, being thus nearly stationary; about two-thirds consist of cotton goods; the rest chiefly of woollens, linens, iron and steel, Irish butter, cheese, coals, machinery, and paints: a considerable portion of the British manufactures are afterwards smuggled into Spain. The imports from the United Kingdom include a considerable quantity of tobacco, shellac, indigo, quicksilver, and other foreign goods.

From the British N. American colonies, nearly 300,000 quintals of dried cod are annually imported, the returns for which are partly made in salt from St Ubes.

Other countries with which Portugal chiefly trades are, Brazil, from whence tropical produce is imported in exchange for wine, brandy, and other articles; the several nations in the N. of Europe; the Portuguese colonies of the Madeiras, Cape de Verde Islands, Angola, and Mozambique in Africa, Goa, and Macao, which, however, are almost all declining places; and the United States. The last-mentioned corn used to be regularly imported, but sufficient is now grown for the consumption; recently, indeed, a little has been exported. The total exports from Portugal may be estimated at about £2,000,000; and the imports at nearly the same. The foreign trade is almost entirely in the hands of foreigners, chiefly English, resident in Lisbon and Oporto.

Lisbon, the capital, lies on the right bank of the Tagus, 10 miles from its mouth, in lat. 38° 42' N., long. 9° 8' W.; where the river extends into a bay five miles wide, forming one of the finest harbours or roads in the world. The town is, however, known to be the filthiest in Europe, especially the E. quarter. Pop. 260,000. Its trade has greatly diminished since the separation from Brazil, though it is still the emporium of the S. part of the kingdom. Upwards of 1000 vessels are annually, of which about one-third are British.

Oporto, the outlet of the N. and most industrious provinces, lies on the declivity of a hill on the N. side of the Douro, 2 miles from its mouth, in lat. 41° 8' N., long. 8° 37' W., 170 miles from Lisbon. The river, though difficult of entrance, owing to rocks and quicksands, and rarely

practicable for vessels drawing more than 16 feet, is still well adapted for trade; in front of the town it is sufficiently deep for pretty large vessels, while brigs and smaller craft can lie close to the quay; and it is navigable by barges or boats for about 100 miles. Pop. 70,000. On the opposite side of the river, between the suburbs of Villa-nova and Gaya, there are immense vaults or "lodges," where the wine is kept. Port-wine is here the great staple, but the exports of fruit are also considerable. From 80,000 to 90,000 tons of shipping enter annually, of which fully one-fourth are British. Both Lisbon and Oporto have a regular steam communication with England.

The other ports are Caminha, Viano, Villa do Conde, Aveira, Figueira, Setubal or St Ubea, on the W. coast, and Faro and Villa Nova de Portimao in Algarve.

MEASURES, MONEY, FINANCES, &c.

Measures and Weights.—The palmo (*craveiro*) of 8 inches = 8.62 Imp. inches; the pe or foot = 1½ palmo; the vara = 5 palmos = 43.11 Imp. inches; the covado, nominally equal 3 palmos, is commonly 24½ Portuguese inches, or 26.67 Imp. inches; the braça is 10 palmos. The Portuguese league (18 to the degree) of 3 milles = 6759 Imp. yards, or 3 Imp. milles 6¼ furlongs.

The geira, land measure, = 4840 square varas; 7 geiras = 10 Imp. acres nearly.

The Lisbon almude, liquid measure, of 2 pots, 12 canadas, or 48 quartilhos, = 3.64 Imp. galls.; the baril is 18, the pipe 26, and the tonelada 52 almudes. The Oporto almude = 5.61 Imp. galls.

The moyo, dry measure, of 15 fanegas, 60 Lisbon alquieres, or 240 quartos = 22.39 Imp. bushels; and 100 Lisbon alquieres = 37.32 Imp. bushels. At Oporto, however, the alquiere = 0.465 Imp. bushel, or 100 Oporto alquieres = 46.50 Imp. bushels.

The arroba of 32 arratels or pounds (each of 2 marks, or 16 ounces) = 32.38 lbs. avoirdupois; and 100 Portuguese lbs. = 101.18 lbs. avoirdupois; the quintal is 4 arrobas; the tonelada 54 arrobas. The apothecaries' pound is 1½ mark.

Gold and silver are weighed by the mark of 8 ounces or 4608 grains = 35.41 troy grains. The fineness of gold is expressed by dividing the mark fine or other weight into 24 quilates or carats, each of 4 grains; and the fineness of silver, by dividing the mark fine into 12 dinheiros, each of 24 grains. Gold, 22 carats fine, is sold at the fixed rate of 96 milreas per mark; and silver, 11 dinheiros fine, at the fixed rate of 6 milreas per mark; the variations of price upon each being made by a premium per cent.

Money.—Accounts are stated in reis or reas; and 1000 reas are termed a milrea, which in accounts is denoted thus, 1\$000. The milrea, valued in silver from the crusado novo, is worth 56d. sterling. 400 reas = 1 crusado of exchange; a million of reas (1000\$000), are termed a conto.

The modern coins are:—In gold, the dobraon or ounce of 12800 reas; the half-dobraon, or johanese of 6400 reas; the half-johanese of 3200 reas; the escudo of 1600 reas; the half-escudo of 800 reas; and the crusado velho of 400 reas; which are all minted at the rate of 8 dobraons to the Portuguese mark, nominally 22 carats fine, but seldom above 21½ carats:—In silver, the crusado novo of 480 reas, and ½, ¼, and ⅓ crusadoes; the piece of 6 vintems, or 120 reas; the testoon of 5 vintems, or 100 reas; and pieces of 3 and 2½ vintems:—In copper, pieces of 40, 10, 5, 3, and 1½ reas.

In 1835, a new coinage was ordered, making a gold crown of 5000 reas worth £1. 3s. 11½d. sterling, and a silver crown or milrea, 56½d. sterling.

Usance of bills, from London, 30 days' sight; from Spain, 15 days' sight; from France, 60 days' date; and from Italy, 3 months' date. Days of grace, on inland bills, 15; on foreign bills,

when accepted, 6, but when not accepted, they must be either paid or protested when due.

A *National Bank*, established 1822, with a capital of £700,000, issues notes payable in specie.

The *Finances* are in great disorder. In 1838, the revenue amounted to £2,091,000, and the expenditure to £2,524,000; leaving a deficit of £433,000. The foreign debt in the same year amounted to £11,375,300; and the internal debt to £4,087,039; total, £15,462,339; the interest on which amounted to £621,442.

The foreign debt consists of various loans raised in England between 1831 and 1837, the dividends on which have been rarely paid. The "old Portuguese 5 per cents of 1823" (not included in those above mentioned) were assigned in 1825 to Brazil, by whom the interest and sinking-fund has been since regularly provided.

A *Treaty with Britain*, July 3, 1842, provides that the subjects of each of the two powers shall, in the dominions of the other, enjoy the privileges of "subjects of the most favoured nation;" and that there shall be reciprocal liberty of commerce and navigation; but without prejudice to the existing regulations respecting the Douro wine-trade, the exportation of salt from St Ubea, and the exclusive right of the crown of Portugal to farm the sale of ivory, orchil, gold dust, soap, gunpowder, and tobacco, for consumption in that kingdom.

All merchandise, which can be legally imported into either country from the other, in ships of that other country, shall pay no higher dues than if the shipments were effected in national vessels; and exports shall be regulated on the same principle. Farther, British ships are allowed to proceed direct from any port in the British dominions to any Portuguese colony, with the produce or manufactures of the United Kingdom or its colonies, except such goods as are prohibited or admitted only from Portuguese possessions; and such British ships and goods shall pay no higher dues than are exigible on such goods brought in Portuguese ships, or on the like goods brought from other countries in Portuguese ships. The same rights are conceded by Britain to Portugal; and similar privileges are also mutually granted by the two powers to each other in regard to exports from their colonies. The vessels of the two countries respectively shall also be permitted to discharge and load at different ports in the other, in the same voyage inwards or outwards, as national vessels.

The treaty comprehends various other stipulations, including an agreement to take into consideration the duties now levied upon the productions of either country, with a view to their reduction; which "matter shall without delay be made the subject of a special negotiation between the two governments." It is to endure for 10 years, and further, until the end of 12 months after notice.

POSTING, or travelling by means of hired horses, is a government monopoly in almost all European countries, except Britain, where it is conducted in a much superior manner, through the competition of private parties; though, owing to taxation, at greater expense. Posting is now, however, less common in this country than formerly, owing to the extension of other means of travelling.

Duties in Britain.—Besides the carriage duty [COACH], every postmaster is required, by the act 2 & 3 Wm. IV. c. 120, to take out yearly a license costing 7s. 6d., and which expires 31st January. He must also pay 1d. per mile for each horse let for hire; but where the distance is not greater than 8 miles, then 1-5th of the charge for hire, or 1s. 9d., at his option; and in the case of the horse not bringing back any person, and not deviating from the usual road, 1s. In respect of every horse let or used for any time less than 28 days, 1-5th of the charge for hire; or in lieu thereof, for every day not exceeding 3 days, 2s. 6d.; from 3 to 13 days, 1s. 9d.; above 13 and less than 28 days, 1s. 3d. Posting carriages must be numbered, and bear the owner's name and residence. The duties are checked by means of tickets left by the hirer or postilion with the turnpike keepers,—an account of which is taken periodically by the excise. The regulations are enforced under penalties.

In 1841, the produce of the post horse duties was £196,134, and of the licenses, £3729.

POST-OFFICE. The origin of this institution may be traced to the special messengers or "*nuncii*," who, in ancient times and in the middle ages, were employed to convey the public despatches and edicts. At a later period regular couriers were employed, and stations or *posts* assigned, between which each should pass, handing the papers from the one to the other. In the fifteenth century, regular posts were established in different parts of Europe, the benefit of which was gradually extended to private parties; and public letter offices were opened in France in 1619, and in Britain in 1635. The latter, called a "merchant post," did not prosper; but, in 1649, it was placed on a better footing by the Commonwealth; and, in 1656, further improved by Cromwell. In 1710, a general post-office was established by the act 9 Anne, c. 11, for the United Kingdom and the colonies.

The post-office, however, continued long afterwards a very imperfect institution; the mails were sent by boys on horseback,—a mode attended with delay, danger, and uncertainty; and local and cross-road posts were either still more defective, or altogether wanting. At length, the post having been outstripped, in point of despatch and safety, by the ordinary stage-coaches, it occurred to John Palmer, manager of the Bath theatre, that a great improvement might be made by contracting with the proprietors of coaches for the carriage of the mail, and binding them to perform the journey in a specified time, and take a guard for protection. His mail-coach plan was submitted, in 1782, to Mr Pitt, by whom it was zealously supported. In 1784, notwithstanding much opposition, it was carried into operation on the principal roads, Mr Palmer being, at same time, appointed comptroller-general of the post-office; and the system was thereafter gradually extended, with other improvements in regard to frequent transmission, punctuality, and speed, to almost all parts of the kingdom.

The safe and speedy conveyance of letters for the benefit of trade, was the primary consideration with the British government on the first establishment of a post-office; the revenue was held to be of minor importance: this principle is recognised in the preamble of the different postage acts which were passed from the time of the Commonwealth down to the 9th of Queen Anne. In 1710, when 1d. was added to several of the previous rates, only 4d. was charged in Britain for distances above 80 miles, and 3d. for shorter distances; and, in 1765, the rates for distances not exceeding 30 miles, were reduced to 1d. and 2d. But, in 1784, on the introduction of Mr Palmer's plan, one object of which was an augmentation of revenue, the whole were graduated between 2d. and 6d.—rates which, owing to the exigencies of the war, were successively increased in 1797, 1801, 1805, and 1812. In the year last mentioned, the charges on general post letters in Britain were,—for distances not above 15 miles, 4d.; from 15 to 20 miles, 5d.; from 20 to 30, 6d.; 30 to 50, 7d.; 50 to 80, 8d.; 80 to 120, 9d.; 120 to 170, 10d.; 170 to 230, 11d.; 230 to 300, 12d.; and an additional 1d. for each additional 100 miles. These rates were continued until 1839. A single letter was understood to contain a single piece of paper, not exceeding 1 oz. in weight; a second piece, or enclosure, constituted a double letter; beyond, fourfold,—the postage advanced by weight. In Scotland, an additional 3d. was charged for tolls. In Ireland, the rates were mostly lower. Between Britain and Ireland, packet rates were charged in addition to their respective inland rates. The post rate in towns was 1d., except in the London district, where it was 2d. and 3d., according to distance. The exemptions from postage were, letters "franked" by members of parliament and certain official persons, a privilege coeval with the institution of the post-office; parliamentary papers; and stamped newspapers: the letters of soldiers and sailors, countersigned by their officer, were charged, after 1795, at a uniform rate of 1d.

In 1709, the gross receipt of the post-office was £111,461, and the net revenue, £56,664. In 1779, the net revenue was only about £140,000. But after 1784, Mr Palmer's improvements, and the advance of the country, led to a rapid increase; and, in 1803, the gross receipt was £1,372,979, and net revenue, £956,212. In 1815, the gross receipt was £2,323,835; the charges, £704,639, or about 29 per cent. on

£1,619,196, the net revenue. After 1815, the excessive rates of postage, combined with the greater facilities for evading them afforded through improved means of communication, prevented any further augmentation of the revenue, notwithstanding the subsequent increase of the country in wealth and population.

The following tables, abridged from the Parliamentary Report on Post-office Reform, exhibit an estimate of the documents which passed through the office in 1837, the average postage thereon, and the revenue : also an analysis of the cost of management, as prepared for the said Report in 1838 :—

RECEIPTS.				EXPENSES.	
Description of Letters.	No. of Letters.	Av. Postage.	Gross Revenue.		
General post, inland, above 4d.	46,378,800	2½	1,782,191	1. Cost of transit in U. Kingdom :—	£
Do. not above 4d.	5,151,900	3½	75,151	Mail-coach expenses	140,000
London local post	11,837,852	2½	114,753	Riding work, &c.	107,000
Provincial do.	8,000,412	1	33,403	Packet service	20,000
				Other payments	7,000
Packet and ship	71,400,204	6½	2,045,578		207,000
Parliamentary packets	4,813,448	3½	309,340	2. Cost of P. O. establishments in U. K.	200,000
Official packets	2,109,010				
Statutes	77,548			3. Foreign and colonial packets.	
Newspapers	44,500,000			£31,500, other foreign and colonial charges, superannuation of allowances, &c. £91,738	123,238
Unappropriated . .	126,423,826		4,641	Total charges	630,238
			2,379,559	Net revenue	1,619,196

In computing the average rates of postage now stated, multiple letters are included and counted as single ; excluding multiple letters, the average postage of inland letters, instead of 6½d. was 6¼d.

We have furnished these details from their bearing upon the plan of post-office reform brought forward in 1837 by Rowland Hill, a gentleman unconnected with the department. He proposed, 1st, a low and uniform rate, instead of the then existing high and variable rates ; 2d, increased speed in delivery ; and, 3d, more frequent despatch. He also recommended that the postage should be charged by weight, and pre-paid, at the rate of 1d. for each letter not above ½ oz. ; and he afterwards proposed that the prepayment should be by means of stamps, an expedient which he says was suggested to him by Mr Charles Knight. Mr Hill's plan embraced all inland letters, to the exclusion even of parliamentary and official packets, but it did not include foreign and colonial letters.

The principle of a uniform postage is founded on the facts that the cost of distributing letters in the United Kingdom consists chiefly in the expenses incurred with reference to their receipt at and delivery from the office ; and that the cost of transit along the mail roads is comparatively unimportant, and determined rather by the number of letters carried than the distance. "It is not matter of inference," says Mr Hill, "but matter of fact, that the expense of the post-office is practically the same, whether a letter is going from London to Barnet (11 miles), or from London to Edinburgh (397 miles) ; the difference is not expressible in the smallest coin we have." The cost of transit from London to Edinburgh, he explained to be only 1-36th of a penny. The fixing of a low rate flowed almost necessarily from the adoption of a uniform rate ; it was besides essential to a stoppage of the private conveyance of letters. The post-office was thus to be restored to its ancient footing of an institution whose primary object was public accommodation, not revenue ; though the loss of income from the change would, it was thought, be gradually diminished, and perhaps made up, by the increase of correspondence, commercial, literary, and domestic, arising from the reduced postage.

A general feeling having been aroused in favour of Mr Hill's plan, it was resulted by the House of Commons to a committee for investigation, in December 1837. And in 1838, the committee reported, "that the evidence taken before them abundantly proves the present high rates of postage are extremely injurious to all classes ;" restricting commerce, art, and science, and the progress of education ; circumscribing the operations of institutions for the promotion of religion, morality, and charity ; interfering with domestic comfort ; suppressing almost entirely the correspondence of the poor ; and impairing habitual respect to the law by encouraging evasions of the post-office statutes. The committee, therefore, recommended increased facilities for correspondence. "Upon the important necessity of

form rate, the committee are of opinion, that that part of the inland postage *ters* which consists of tax ought to be the same on all: that as the cost of *yance* per letter depends more on the number of letters carried than on *stance* which they are conveyed, the cost being frequently greater for dis- *s* of a few miles than for distances of hundreds of miles, the charge, if varied *portion* to the cost, ought to increase in the inverse ratio of the number of *s* conveyed; but as it would be difficult, if not impossible, to carry such a *tion* into practice, and as the actual cost of conveyance (assuming the charged *s* to bear the whole expense of the franked letters and of the newspapers) *less* than the half of the whole charge, exclusive of tax, the remaining portion *ting* chiefly in the charges attendant on their receipt at, and delivery from *st-office*, the committee are of opinion that the nearest practicable approach *air* system would be to charge a uniform rate of postage between one post- *and* another, whatever may be their distance; and the committee are further *nion*, that such an arrangement is highly desirable, not only on account of its *et* fairness, but because it would tend in a great degree to simplify and *mize* the business of the post-office." Lastly, the committee reported in favour *s* other parts of Mr Hill's plan, confirming by official data the whole of his *sions*.

1839, the uniform penny-postage was adopted by parliament. A preparatory *enny* rate for general post letters was introduced, December 5, 1839, and at *time* the London district rates were reduced to 1d.; the uniform penny rate *into* operation on 10th January, and stamps on the 6th May 1840.

ides these changes, considerable improvements have of late been effected in the *ncy*, despatch, and speed of the mails,—the last being chiefly accomplished *s* transmission of letters in all the chief routes in Britain by means of railways. *incipal* inland mails are sent from London (except on Sunday) twice a-day, *ing* and evening, instead of only once, in the evening, as formerly; and Edin- *and* Glasgow are reached in 29 hours. A considerable addition has also *made* to the number of post-offices in the United Kingdom, which at present *d* 3000. So that letters are now carried, at an expense convenient to the *st*, quickly and punctually into every part of the British islands.

s following table shows the financial movement of the post-office in the four *ended* January 5, 1842:—

to 3.	Gross Revenue.	Cost of Manage- ment.	Net Revenue.	Postage charged on the Government Departments.	Net Produce, ex- clusive of Charges on the Government Departments.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1	2,346,278 0 9½	686,768 3 6½	1,659,509 17 2½	45,156 0 11	1,614,353 16 3½
2	2,390,763 10 1½	756,999 7 4	1,633,764 2 9½	44,277 13 4	1,589,486 9 5½
3	1,342,604 5 2	858,677 0 5½	483,927 4 8½	90,761 3 2	393,166 1 6½
4	1,495,540 9 0½	938,168 19 7½	557,371 9 5½	113,265 15 10	444,115 13 7½

s net revenue is less than was anticipated by many, chiefly from the increase *charges* of management, a rise partly due to the additional expenses attendant *s* conveyance of the mails since the extension of the railway system. Still, *sults* of the last year show the rate of the letter tax to be 59½ per cent. (the *of* £557,371, the net revenue, to £938,168,* the cost of management), or 47½ *nt.*, if estimated by the net produce, exclusive of postage paid by government; *these* rates are yearly increasing. The utility of the post-office, however, even *ource* of revenue, is not to be appreciated solely by the amount which it yields *ly* to the state; it must also be viewed as auxiliary to other branches of *iblic* income; and few can doubt the beneficial influence of Mr Hill's system *all* departments of industry, and almost every object of national policy.

s number of letters posted in the first four months of 1842 averaged about *000* a-week in England, 440,000 in Scotland, and 430,000 in Ireland; total, *000* weekly, or about 208,000,000 a-year; being 2½ fold or 160 per cent. more *he* number in 1838 (taken at 80,000,000), notwithstanding the great depression *de* in the interval. Mr Hill estimated the probable augmentation at 5½ fold,

is does not include the charges of certain packets controlled by the Admiralty, to whose *tendence* they were removed in 1837, and the expense of which is included in the Navy *as*, where they are not distinguished. On the other hand, were a strict accounting to be *to*, the post-office would fall to receive credit for the value of the stamps of newspapers dis- *d* by it, which, taking their number at 44,500,000, as in 1837, would amount to £185,416.

ish, according to Mr Brande, should entirely and easily dissolve one part of ash without the aid of heat : the residue, if any, consists of impurities.

Ashes are used in the soap and glass manufactures, bleaching and scouring of silks and woollen cloths, and dyeing ; also, when refined, in medicine, surgery, and other arts. But of late years their consumption has been checked by the substitution of soda and the chlorides of lime and soda for many purposes ; and imports into Britain, formerly upwards of 200,000 cwts., do not now exceed 120,000 cwts., which, excepting a small quantity from Russia, are wholly brought from N. America, chiefly Montreal. [CANADA.]

POTATO (Fr. *Patate*. Ger. *Kartoffel*. Por. *Batata*. Sp. *Patata*), "the most precious gift of the New World to the Old," appears to have reached the Continent from Spanish America ; though it is said to have been first brought to Britain from Virginia by Raleigh in 1586. It is, however, only within the last 100 years that its cultivation has become general. The plant (*Solanum tuberosum*), valued solely for its esculent tuberosc roots, has a very wide range of soils and temperature ; but light ground is that best adapted for it. The varieties are usually distinguished into the early and the late ; the former, except in the vicinity of large towns, raised chiefly in the garden, the latter in the fields : there are, however, intermediate kinds. All are commonly propagated from the tubers ; those reared from seed requiring several years before their roots obtain the full size. The sets are usually sown in spring ; from 8 to 10 cwts. are required to the acre ; and the crop varies from about 5 to 10 tons, according to soil and culture. The roots are taken up in dry weather, when they are either stored or preserved in heaps or pits covered with earth, as a defence against frost, and to prevent putrefaction. Besides its ordinary use as human food, the potato is employed in rearing live-stock, and in distillation. Its fecula, wanting gluten, does not undergo the panary fermentation, but it may be so mixed with wheat-flour as to produce good bread, and it is applicable to other purposes of domestic economy, while the use of its starch is extending in various forms. It grows exempt from most of the hazards as to weather to which other crops are subject ; and it is liable to few diseases : the most dreaded are the *curl*, an imperfect formation of the tubers, indicated by the curling of the leaf ; and the *dry-rot*, or decay of the set ; both unexplained. It can be cultivated on a small as well as a large scale ; is under every system of agriculture a beneficial crop ; and produces more nutriment upon the same extent of ground than any other plant cultivated in the temperate regions. It may thus be regarded as the mainstay of the temperate zone. It now forms a great part of the food of the inhabitants of Europe ; and its introduction as a supplementary crop has greatly lessened the hazards of famine. Mr Cobbett and others have asserted that its use in Ireland, where it forms the principal article of food, has been attended with pauperizing effects ; but the same remark may be made upon the dependence of the Hindoos upon rice. The entire reliance of the peasantry of Ireland and India upon a cheapest species of food is merely one of many indications that these fertile countries are in an unhealthy state of indigence.

The import duty on potatoes, formerly 2s. per cwt., has been reduced (1842) to nominal rates of 2d. per cwt. from foreign countries, and 1d. from the colonies. This change may perhaps lead to shipments to London from the adjoining parts of the Continent ; but it is impossible that a cheap bulky article, raised every where with facility from the poorest soils, can become an important object of external commerce.

POULTRY. The rearing of domestic fowls forms an important branch of rural economy among small farmers and cottagers, especially in the vicinity of large towns.

Surrey, Sussex, Essex, Cambridge, Norfolk, Suffolk, and Berkshire, however, are rearing and fattening of poultry for the London market is thought worthy of mention by considerable farmers. At Wokingham, in Berkshire, the metropolitan dealers sometimes pay £150 to the feeders in that neighbourhood in a single market-day. Reigate and Dorking are also large poultry markets. The present Earl Spencer, some years ago, instituted a poultry show at Chapel Brampton, in Northamptonshire. As it is always desirable to have a standard in view, raised high as the most approved system will carry it, we give the weight of the fowls which gained the prizes awarded in 1829 :—The best turkey weighed 20 lbs. 4 oz. ; capon, 7 lbs. 14½ oz. ; pullet, 6 lbs. 3½ oz. ; goose, 18 lbs. 2½ oz. ; couple of ducks, 15 lbs. 10 oz. The production of animal food by domestic fowls is much greater than is commonly imagined. Mr Lawrence, in his treatise on poultry, states, that from five Poland hens he obtained, in 11 months, 503 eggs, weighing, at the average of 1 oz. 5 drams each, 50½ lbs. The feathers of domestic fowls form an object of considerable trade, especially between Ireland and England.

POUND [*CATTLE-FISH. SANDRACH.*]

POUND, the integer of weight in most European countries, seems originally to have been derived from the Roman *pondus*, or *libra* of 12 *uncie*, though the latter was less than most of the pounds now in use, being, according to Paucton, only 574 troy grains. In the middle ages, the weights were rude and variable. It was one of the concessions by King John in the Magna Charta, that there should be uniformity in this respect: and not long afterwards a statute, 51 Henry III., ordained that an English penny, called the sterling, should weigh 32 dry wheat grains, that 20 pence should make an ounce, and 12 ounces a pound. At a later period, the number of grains in the penny was reduced to 24, making 5760 grains in the standard pound: which, under the name of Troy weight, was first used at the Mint in 1526, instead of the ancient Moneyer's or Tower pound of 5400 grains. The Troy pound has ever since been the English standard, though its use has been confined to the precious metals; the *avoirdupois* pound of 7000 troy grains having been for several centuries that generally used in commerce. [*COIN MEASURES.*]

POUND (*Lat. & Sp. Libra. It. Libra. Fr. Livre*), the ancient money integer in most parts of Europe, was at first a pound weight of silver, from which 20 shillings were coined, or 240 pence. This mode of reckoning, supposed to be of Roman origin, was introduced into modern Europe by Charlemagne, who divided the *livre* into 20 *sous*, and each *sou* into 12 *deniers*. It was established by William the Conqueror in England, where it has been continued down to the present time, though in almost every other part of Europe it is now superseded by the decimal system. [*COIN MONEY.*]

PREMIUM (*Lat. Premium, reward*), is justly defined by Dr Johnson to be "something given to invite a loan or a bargain." In commerce, however, the term is not used very consistently. Thus, while the premium on the share of a joint-stock company is understood to be the sum given for it *above* its original value or par, the premium of an insurance is the *whole* consideration granted by the party protected under the contract.

PRESCRIPTION, in Scotland, is employed in the sense in which limitation is used in England, viz. to express that operation of the lapse of time by which obligations are extinguished or titles protected. There are various kinds of prescription.

The *long prescription*, as it is termed, viz. the lapse of 40 years, sweeps away all unimplemented obligations. (Act 1617, c. 12.)

The *quennial* or *twenty years' prescription* protects parties from action on obligations holograph, or in the handwriting of the granter, unattested, and on books of accounts. But the verity of the document may be referred to the writer's oath. (Act 1669, c. 9.)

The *septennial prescription* relieves cautioners after the lapse of seven years from the date of their undertaking. If the cautioner appear on the bond as a principal, he has the benefit of the act only if there be a clause of relief in the bond, or a bond of relief intimated to the creditor. (Act 1695, c. 5.)

The *sexennial prescription* protects parties from action on bills of exchange and promissory notes, after the lapse of six years from the day of payment. Bank-notes and post-bills are excepted. Though the document is thus rendered unavailing, the original debt may still be proved by the writ or oath of the debtor. (12 Geo. III. c. 72, § 38-41; 23 Geo. III. c. 18, § 55.)

The *quinquennial* or *five years' prescription* precludes action on bargains as to sale, letting, and hiring, and such like contracts as to moveables not constituted by writing. (Act 1669, c. 9.)

The *triennial* or *three years' prescription* applies to tradesmen's accounts and servants' and artificers' wages, and has been stretched to include professional remuneration and the salaries of persons acting as mandatories or agents. In the case of salary or wages the amount due at each term runs a separate prescription. In the case of accounts, the prescription runs from the last article of the account. The presumption on which it proceeds is, that the debt has been paid within the three years; but the creditor retains his right, if he prove by the oath of the debtor, or by a document under his hand, that the debt is unpaid. (Act 1579, c. 83.)

PRESENTMENT, in the Law of Bills of Exchange. It is incumbent on the holder of a bill to present it in certain cases for acceptance alone, and in all cases for payment, or for acceptance and payment together. It is necessary that bills payable a certain period after sight be presented for acceptance, that the point from which

the time runs may be fixed. In other cases it is not necessary to present for acceptance until the final presentment for payment; but it is in all cases prudent, as, on acceptance, the paper acquires superior negotiability, and, on dishonour, the drawer and indorser become immediately liable. The only rule as to the time of presenting bills, payable at a certain time after sight, is, that it must be "within a reasonable time." Of this "reasonable time" no better account can be given than that the law sanctions what is established by the usage of trade in each class of cases. Presentment for acceptance should be made at the place of abode of the drawee, or, if he be a man of business, at his place of business. It is the duty of the holder to use every reasonable means to discover the drawee, if he has left his prior residence or is otherwise difficult of access. The bankruptcy of the drawee is not notice of dishonour, and cannot excuse want of presentment. If a bill has been presented for acceptance, and dishonoured, and the dishonour notified, the holder is not required to present again for payment to preserve his recourse. If an acceptance is qualified, as by naming a place of payment, the qualification must be attended to in the presentment for payment. By 1 & 2 Geo. IV. c. 78, if we accept a bill "payable at the house of a banker or other place, without further expression in his acceptance, such acceptance shall be deemed and taken to be, to all intents and purposes, a general acceptance of such bill; but if the acceptor shall, in his acceptance, express that he accepts the bill, payable at a banker's house or other place only, and not otherwise or elsewhere, such acceptance shall be deemed and taken to be, to all intents and purposes, a qualified acceptance of such bill, and the acceptor shall not be liable to pay the said bill, except in default of payment, when such payment shall have been first duly demanded at such banker's house or other place." It is to be observed that this statute refers merely to the responsibility of the acceptor; with regard to that of the drawer and indorser, it has been decided, after much discussion, that a bill must be presented wherever it is accepted payable, to secure recourse (*Gibb v. Mather*, 1832; 2 *Crom. & Jerv.* 254). Where a place of payment is inserted in the body of the bill, it must be there presented, to preserve recourse. The bill must be presented at proper business hours, and on this point the usage of the place and profession must be kept in view; but it will effectually meet any objection on the ground of untimely hours, to show that there was an authorized person on the spot, who, when the bill was presented, refused to honour it. Drawers and indorsers are discharged from liability, unless a bill be presented for payment on the proper day. (*Bayley on Bills*, 216-252. *Chitty on Bills*, 272-280, 353-391.)

PRICE, the exchangeable value of any article estimated in money. The price of any commodity is, in the general case, permanently regulated by the quantity of labour and capital expended in obtaining it at the original storehouse of nature; in other words, by the cost of production, including, of course, the ordinary or average rate of profit. This is called by Adam Smith the natural price of a commodity. The actual or market price, at any particular time, is influenced by the existing proportion between supply and demand; and is subject, as this proportion varies, to perpetual fluctuations; but the cost of production constitutes, as it were, a centre, to which it has a constant tendency to approach. Whenever it sinks below this point, production, having its expenses no longer repaid, is discontinued, and the supply of commodities diminished, until their value become again sufficient to pay the labour and capital necessary to bring them to market. On the other hand, if the market price should at any time be elevated above the cost of production, labour and capital will, according to the invariable laws of competition, be drawn to the production of the articles which had acquired this extraordinary value, and the supply will be increased until their market price fall back to its natural level.

The cost of production, however, though in ordinary circumstances, and for any moderate period, nearly stationary, is yet by no means fixed. The invention of new processes, improvements in skill and machinery, discovery of readier sources of supply, and diminution of expense of transportation, all operate by insensible degrees in lowering the cost of many articles; while an opposite effect will be produced by all those circumstances which cause an increase in the labour of procuring them. In general, it has been observed that there is a natural tendency in objects of manufacture to diminution of cost: the rudest machinery is of course first employed; by progressive improvements, to which no limit can be assigned, it is rendered more and more capable of yielding a greater quantity with the same expense; and the competition of capitalists invariably reduces the price of every commodity to the sum which the least expensive method necessarily requires for

POUNCE. [CUTTLE-FISH. SANDARACH.]

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The *long prescription*, as it is termed, viz. the lapse of 40 years, sweeps away all unimplemented obligations. (Act 1617, c. 12.)

The *vicennial* or *twenty years' prescription* protects parties from action on obligations holograph, or in the handwriting of the granter, unattested, and on books of accounts. But the verity of the document may be referred to the writer's oath. (Act 1669, c. 9.)

The *septennial prescription* relieves cautioners after the lapse of seven years from the date of their undertaking. If the cautioner appear on the bond as a principal, he has the benefit of the act only if there be a clause of relief in the bond, or a bond of relief intimated to the creditor. (Act 1695, c. 5.)

The *sexennial prescription* protects parties from action on bills of exchange and promissory notes, after the lapse of six years from the day of payment. Bank-notes and post-bills are excepted. Though the document is thus rendered unavailing, the original debt may still be proved by the writ or oath of the debtor. (12 Geo. III. c. 72, § 38-41; 23 Geo. III. c. 18, § 55.)

The *quinquennial* or *five years' prescription* precludes action on bargains as to sale, letting, and hiring, and such like contracts as to moveables not constituted by writing. (Act 1669, c. 9.)

The *triennial* or *three years' prescription* applies to tradesmen's accounts and servants' and artificers' wages, and has been stretched to include professional remuneration and the salaries of persons acting as mandatories or agents. In the case of salary or wages the amount due at each term runs a separate prescription. In the case of accounts, the prescription runs from the last article of the account. The presumption on which it proceeds is, that the debt has been paid within the three years; but the creditor retains his right, if he prove by the oath of the debtor, or by a document under his hand, that the debt is unpaid. (Act 1579, c. 83.)

PRESENTMENT, in the Law of Bills of Exchange. It is incumbent on the holder of a bill to present it in certain cases for acceptance alone, and in all cases for payment, or for acceptance and payment together. It is necessary that bills payable a certain period after sight be presented for acceptance, that the point from which

the runs may be fixed. In other cases it is not necessary to present for acceptance until the final presentment for payment; but it is in all cases prudent, as, by acceptance, the paper acquires superior negotiability, and, on dishonour, the drawer and indorser become immediately liable. The only rule as to the time of presenting bills, payable at a certain time after sight, is, that it must be "within reasonable time." Of this "reasonable time" no better account can be given than what the law sanctions what is established by the usage of trade in each class of bills. Presentment for acceptance should be made at the place of abode of the drawer, or, if he be a man of business, at his place of business. It is the duty of the holder to use every reasonable means to discover the drawee, if he has left his residence or is otherwise difficult of access. The bankruptcy of the drawee is no excuse for notice of dishonour, and cannot excuse want of presentment. If a bill has been presented for acceptance, and dishonoured, and the dishonour notified, the holder is not required to present again for payment to preserve his recourse. An acceptance is qualified, as by naming a place of payment, the qualification being attended to in the presentment for payment. By 1 & 2 Geo. IV. c. 78, if a bill is "payable at the house of a banker or other place, without further mention in his acceptance, such acceptance shall be deemed and taken to be, in all intents and purposes, a general acceptance of such bill; but if the acceptor, in his acceptance, express that he accepts the bill, payable at a banker's or other place only, and not otherwise or elsewhere, such acceptance shall nevertheless be deemed and taken to be, to all intents and purposes, a qualified acceptance of the bill, and the acceptor shall not be liable to pay the said bill, except in case of payment, when such payment shall have been first duly demanded at such place or other place." It is to be observed that this statute refers merely to the responsibility of the acceptor; with regard to that of the drawer and indorser, it has been decided, after much discussion, that a bill must be presented wherever it is accepted payable, to secure recourse (*Gibb v. Mather*, 1832; 2 Crom. & Jerv. 216-252. *Chitty on Bills*, 272-280, 353-391.)

CE, the exchangeable value of any article estimated in money. The price of a commodity is, in the general case, permanently regulated by the quantity of labour and capital expended in obtaining it at the original storehouse of nature; or, in other words, by the cost of production, including, of course, the ordinary or average rate of profit. This is called by Adam Smith the natural price of a commodity. The actual or market price, at any particular time, is influenced by the disproportion between supply and demand; and is subject, as this disproportion is subject, to perpetual fluctuations; but the cost of production constitutes, as it were, a centre, to which it has a constant tendency to approach. Whenever it sinks below this point, production, having its expenses no longer repaid, is discontinued, the supply of commodities diminished, until their value become again sufficient to remunerate the labour and capital necessary to bring them to market. On the other hand, if the market price should at any time be elevated above the cost of production, labour and capital will, according to the invariable laws of competition, be attracted to the production of the articles which had acquired this extraordinary price, and the supply will be increased until their market price fall back to its natural level.

The cost of production, however, though in ordinary circumstances, and for any considerable period, nearly stationary, is yet by no means fixed. The invention of new processes, improvements in skill and machinery, discovery of readier sources of supply, and diminution of expense of transportation, all operate by insensibly lowering the cost of many articles; while an opposite effect will be produced by all those circumstances which cause an increase in the labour of procuring them. In general, it has been observed that there is a natural tendency in objects of manufacture to diminution of cost: the rudest machinery is of course first introduced; by progressive improvements, to which no limit can be assigned, it becomes more and more capable of yielding a greater quantity with the same labour; and the competition of capitalists invariably reduces the price of every article to the sum which the least expensive method necessarily requires for

its production. But in agriculture, on the contrary, the natural tendency is to increase demand: there the finest machinery, that is the best soils, are first used; and recourse is afterwards had to inferior soils, requiring greater labour to produce the same supplies. Improvements in cultivation are only a temporary check to this progression: for the stimulus which they at the same time communicate to production, and the natural tendency of mankind to increase beyond the means of subsistence, is ultimately certain, by forcing recourse to poorer lands, to raise prices.

These principles are generally applicable to all commodities which can be obtained in indefinite quantities: a class forming the great bulk of those which are objects of commerce. But sometimes particular accidents, sometimes natural causes, and sometimes legislative regulations, keep the market price of many commodities a good deal above the real cost. Thus, choice wines produced only in limited quantities by certain vineyards, curiosities, antiques, and some minerals, possess from their rarity a value altogether independent of the cost of production. Again, the possessors of "secrets in manufactures," of patents for inventions, or of trading monopolies, may, by keeping the market constantly understocked, by never fully supplying the effectual demand, sell their respective commodities much above the natural price, and raise their emoluments, whether they consist of wages or profit, greatly beyond the natural rate. And the exclusive privileges of corporations, statutes of apprenticeship, and all those laws which restrain in particular employments the competition to a smaller number than might otherwise go into them, have the same tendency, though in a less degree.

"The price of monopoly," Adam Smith remarks, "is upon every occasion the highest that can be got. The natural price, or the price of free competition, on the contrary, is the lowest which can be taken, not upon every occasion indeed, but for any considerable time together" (*Wealth of Nations*, b. i. c. 7). But neither the difference between the two, nor the fluctuations in price of freely produced articles, occasioned by derangements in the balance of supply and demand, are uniform in degree with the quantities brought to or withheld from market. Thus, if double the usual quantity of goods is brought to market, it does not necessarily follow that the price will fall one-half, or that if only one-half the usual quantity is supplied, the price will be raised twofold. The proportional differences of price will in some commodities be less, in others greater; depending chiefly upon whether the article is a luxury or a necessary, of a durable or perishable nature, portable or bulky, of partial or general use, readily or not readily supplied by others; and according to the degree in which these and other qualities are combined. An excess in the importation of ripe oranges, for example, will occasion a much greater competition among sellers, and consequently a greater fall of price, than the same excess in the importation of timber; while, again, the fall of price on the latter will be greater than in the case of an equal excess in the supply of cochineal, silver, gold, or any other portable commodity in universal demand, which can be easily re-exported.

But there is no commodity upon which the effect of quantity on price is so considerable as corn. In the case of a deficient crop, the struggle of every one to get his accustomed share of that which is necessary for his subsistence, and of which there is not enough, or so much as usual, for all, produces an advance in price very much beyond the degree of the deficiency. Gregory King estimated that a defect of one-tenth in the harvest raised the price three-tenths above the common rate, that a defect of two-tenths produced a rise of eight-tenths, and so on. But though no such strict rule can be deduced, Mr Tooke thinks "there is some ground for supposing that the estimate is not very wide of the truth, from observation of the repeated occurrence of the fact, that the price of corn in this country has risen from 100 to 200 per cent. and upwards, when the utmost computed deficiency of the crops has not been more than between one-sixth and one-third below an average, and when that deficiency has been relieved by foreign supplies." The effect of abundance in depressing the price is not calculated to be in the same ratio as that of deficiency, as a portion of the excess may be held over. Still, "as a general position," says Mr Tooke, "it may be safely laid down that an excess of the supply of corn is attended with a fall of price much beyond the ratio of excess; and that the larger quantity consequently will yield a less sum of money than the smaller quantity." (*History of Prices*, vol. i. p. 11-20.)

Yet the general tendency of the mutual competition of buyers and sellers in all mercantile communities is to preserve both price and quantity from great and sudden fluctuations. Thus, when supply exceeds demand, and the price of a commodity is lowered, individuals are always to be found ready to employ their funds

and credit in purchasing a portion of the surplus, with the view of retaining it and realizing a profit when the altered relation of supply to demand shall have led to an enhancement of price ; which, again, is through this operation rendered less excessive than it would otherwise become. The regularity and utility of this equalizing process in the corn-trade has been already noticed. [CORN.] It sometimes happens, however, that speculations, instead of limiting the vibrations of price, render them more irregular, and force them to wider extremes. This is generally produced through miscalculation, acted upon by a loose and expansive system of credit, under the influence of which many are encouraged to leave their own track and compete with the proper dealers in a commodity as speculative purchasers of it. The excitement then produced too often changes the sober industry of the merchant into the feverish ardour of the gambler ; means are strained and responsibilities stretched in effecting purchases, until prices having reached an extravagant height, a general attempt is made to realize the golden dream by selling. A recoil then takes place, the whole illusion is dissipated, and, in a market glutted with the stocks of the needy or ruined speculators, the fall of price becomes as excessive as its previous elevation. Occasional over-speculation, and indeed overtrading of every kind, are inseparable from the existence of credit ; but their frequency and extent will, doubtless, be lessened by the advancement and diffusion of commercial knowledge ; even now, their effects would be greatly modified were it more generally kept in view that almost every kind of business is in the hands of established traders, too vigilant to overlook any opportunity of augmentment, and who have much better means of information than temporary intruders.

Alterations in the Value of the Currency have only a nominal influence on prices. If by the paring or abrasion of the coin, or an excessive issue of paper, the value of money is depreciated to the extent of one-half, two pounds, two dollars, or whatever may be the integer of account, will be required to be given where one was before sufficient ; but this will not change the relative value of one commodity to another, as all will be affected by the depreciation in the like degree ; and a bale of cotton, hogshead of sugar, and bushel of corn, will continue to preserve the same exchangeable ratio to each other. The alteration takes longer to reach some commodities than others, so as to occasion a rise in their price. But in the general use, a depreciation of the currency, in reference to particular things only, cannot be supposed, any more than a rise of the tide in reference to particular objects on the shore, and not to all. Similar observations are applicable to the fall of prices consequent on raising the metallic standard, or contracting the paper issues. It is obvious, however, that though alterations in the currency do not affect the proportional value of one commodity towards another, they must produce injustice in reference to all existing contracts ; defrauding the creditor in the case of a depreciation, and the debtor in the case of an enhancement of its value. [ASSIGNATS. MONEY.]

A sudden increase of bank accommodation, it may be observed, tends to raise prices by augmenting the number and power of purchasers, and thus stimulating their competition ; while an opposite effect will be produced by the contraction of such accommodation. But disturbing influences of this kind, though often conjoined with expansions and contractions of the currency, are in truth rather the action of capital ; and their effects upon prices are principally confined to particular localities or branches of business. So long as paper-money can be converted into specie of the mintage standard on demand, any expansion or contraction which could reduce or enhance the value of our currency, compared with that of other countries, would be speedily corrected by the operation of the foreign exchange. Some alteration would of course be produced before the remedial process could be accomplished, but its effect upon prices in general would be scarcely appreciable.

PRICE-CURRENT, a list showing the market prices of commodities.

PRIMAGE, a petty allowance on the freight or cargo of a ship, forming a requisite of the master.

PRINCE EDWARD ISLAND, a province of British America, is situated in the S. of the Gulf of St Lawrence. Area, 2157 square miles. Population 40,000, chiefly of Scotch origin. The constitution, like that of the adjoining colonies, comprehends a lieutenant-governor, council of nine members, and house of assembly of eighteen.

The island, crescent-shaped, deeply indented by bays and inlets, and having an undulating surface, is rather fertile, with a climate resembling, but superior to, that of Lower Canada and Nova Scotia. The chief object of industry is agriculture, on which of late years considerable improvements have been effected ; and a surplus of corn, potatoes, and cattle, are now reared for the supply of

Newfoundland, Nova Scotia, and New Brunswick; from whence British and foreign manufactures, spirits, tea, sugar, and other articles, are imported in exchange. The exports to Britain are confined to a small quantity of timber. Shipbuilding is pursued to some extent; but fishing has never risen into importance. In 1835, the total imports amounted to £61,155; whereof N. American colonies, £50,290; Britain, £10,191; Br. W. Indies, £621; foreign countries, £52. And the exports to £47,216; of which, N. American colonies, £38,223; Britain, £8331; foreign countries, £603; Br. W. Indies, £58. In 1837, the shipping inwards amounted to 381 vessels, 21,578 tons; outwards, 426 vessels, 29,615 tons. The difference between these numbers is occasioned by the departure of new vessels, and the return of others in ballast, of which no account is taken. Charlottetown, the seat of government and chief port, is situated in Hillsborough Bay; it possesses a good harbour.

The colonial currency is nominally what is called Halifax currency [CANADA]; but the exchange on London is commonly about 30 per cent. The revenue in 1836 amounted to £11,513; and the expenditure to £8010.

PRINCIPAL AND AGENT.—An agent, in the widest acceptation, means a person employed to transact any description of business for another, the person so employing him being termed the "Principal." An attorney employed to transact law-business, is called his employer's agent. There are several commercial persons, whose duties and rights are in most instances explained under separate heads, who possess more or less of the character of agency, such as factors, brokers, superintendents of works, confidential clerks or managers, shipmasters, bank-officers, holders of *del credere* commissions, and commercial agents.

Constitution of the Contract.—An agent may be constituted by direct writing, or his authority may be implied from his situation. In some cases the former description of appointment is necessary. In England, a corporation cannot appoint an agent otherwise than by its common seal, except for inferior duties, or to do acts in the ordinary routine of the business of the corporation. To enable an agent to bind his principal by a deed under seal, he must be appointed by a similar deed. There are certain transactions as to real property, as enumerated in the Statute of Frauds (Ch. II. c. 3, §§1, 2, 3), which by that act cannot be performed by an agent unless he hold authority in writing. There are other contracts for which the Statute of Frauds enforces writing by the party or his agent, but for which the authority of the agent does not require to be in writing. Authority to accept, draw, and indorse bills per procuration, may be given verbally. [BILL OF EXCHANGE.] Commercial agents receive the most ample and important powers by simple letter, which may either be general, authorizing them to conduct a particular line of business, and to perform the train of transactions connected with it; or specific, and applicable only to some named transaction; as, where a merchant employs a commission-agent to sell or purchase a particular lot of goods. Implied agency arises from the position of the parties; a slight circumstance will resolve the contract of master and servant into that of principal and agent, in as far as respects third parties. If the master have allowed his servant to buy for him on credit, he is answerable for what the servant may buy, though without his authority, if it be in the line of transactions which the servant was permitted to enter on, and if the dealer was not warned of the want of authority in the particular case. Other limited authorities may likewise be extended by implication. "Thus, a broker employed to purchase, has no authority, as broker merely, to sell for his principal. But if the principal has allowed him to clothe himself with the apparent ownership, or has given him the power of disposition, he cannot afterwards reclaim the goods from a third person, to whom the broker has made an unauthorized sale of them" (*Paley*, 167). The authority to draw, accept, and indorse bills, and even to grant guaranties (though this is an extreme case), may be presumed from circumstances implying the principal's recognition of such a course. In all cases, the extent of the sanction will be for the consideration of a jury. The implied agency may continue after the parties have ceased to have connexion with each other, unless there is notice of the change, or from the time which has intervened since previous transactions. Strangers are not entitled to infer without inquiry that the connexion continues. Where a person authorized to draw bills was dismissed, it was ruled "that if he draw a bill in so little a time that the world cannot take notice of his being out of service; or if he were a long time out of service, but that kept so secret that the world cannot take notice of it; the bill in those cases shall bind the master" (*Harrison*, 12 *Med.* 346). An act done in the way of agency by one not duly authorized, will be confirmed by any act of assent on the part of him for whom he acts.

Authority of Agent.—Where the authority of the agent is limited, he cannot bind his principal beyond it; but authority may be enlarged as well as created by implication, as above. Authority to do particular acts is held to include the power of using the necessary means of accomplishing them. Thus, an authority to sue

receive, and recover a debt, includes an authority to arrest the debtor ; and an agent employed to effect a policy may adjust the loss, and refer it to arbitration ; an authority to collect, discharge, and compound debts, does not authorize the agent to negotiate bills received in payment. In pursuance of an old doctrine of the law, that a delegate cannot delegate his authority, an agent cannot depute his authority to another, unless specially empowered to do so. Written instructions are given a strict interpretation, but they are viewed through the medium of the usages of trade and the necessity of the case. Thus, where one left in Britain a power of attorney, containing extensive powers to buy and sell, and do "all and several such further and other acts, deeds, matters, and things, as should be reasonable, expedient, and advisable to be done," with special power to "indorse, discount, and discount, or acquit and discharge the bills of exchange, promissory notes, or other negotiable securities, which were or should be payable to him, and which he need and require his indorsement," it was held not sufficient to authorize the raising of money by acceptances ; nor in the same case was another power by which the grantor authorized his agent, "for him and on his behalf, to pay and discharge such bills of exchange as should be drawn or charged on him by his agents or respondents as occasion should require," of avail as to the acceptance of a bill which had not been drawn by one who was his agent to that effect (*Attwood v. Munro*, 7 B. & C. 278). But on the other hand, where an agent was employed to proceed with and complete extensive mining operations abroad, implying a large and not pre-defined outlay of capital, he was found entitled to raise money by drafts having exhausted a letter of credit (*Duncarray v. Gill*, 1 M. & M. 450). The agent's authority as respects third parties is measured by the duties he has to perform as interpreted by the usages of trade. For example, he may be appointed to transact a certain description of business, and be particularly instructed not to perform certain acts which are understood in ordinary practice to accompany that business. In such a case, when he accounts with his principal he is responsible for strict adherence to his instructions ; but the public are entitled to rely on his authority generally accompanying his situation ; and those who are especially aware of the contrary, will be safe in so dealing with him. Such is the case where the appointment is of a general nature, as that of a broker, a factor, or an attorney. Persons receiving these designations are entitled to do all things consistent with the duties of their offices, unless they are restricted ; and the public are entitled to view them as unrestricted, unless the contrary be known. The duty of a factor or being to sell, it has been held that he can sell on credit in those trades in which such is the usual course of dealing ; but it was found that he could not do so ; and a special act (6 Geo. IV. c. 94) was required to enable such a person to do so. [FACTOR.] But when the authority is special to do a particular act, or when the agent is doing that which is not a part of the duties of his situation in a general sense, those who deal with him must examine his powers, and the principal is not answerable if he exceed them. The distinction has been thus stated in regard to the sale of a horse :—"If a person keeping livery stables, intrust his servant with a horse to sell, and direct him *not* to warrant, and the servant did nevertheless warrant him, still the master will be liable on the warranty, because the servant was acting within the general scope of his authority, and the public are to be supposed cognizant of any private conversation between the master and servant : but if the owner of a horse send a stranger to a fair *with express direction not to warrant the horse*, and the latter act contrary to the orders, the purchaser can only have recourse to the person who actually sold the horse, and the master is not liable on the warranty." (*Opinion in Veun v. Harrison. Paley*, 203.)

Agent's Obligations.—The first duty of an agent is to follow his instructions, and if he has received none, this duty resolves itself into an adherence to the proper usages of trade in the capacity in which he is employed. Every breach of his duty is at the agent's own peril, though done with the intention of benefiting his principal. If it be unsuccessful, he is responsible ; if it be successful, the advantage reaped by his employer. But if the principal take the benefit of an act transgressing his instructions, he adopts it, and exonerates the agent. The latter is bound to exert all care and diligence in the execution of his trust, and to use all means consistent with honesty for benefiting his employer. He is not, however, bound to sacrifice his own interest in paying that minute attention to the affairs of his employer which may gain for him petty advantages at larger sacrifices of his own. The usual definition of what is expected of him is, that he shall treat his employer's affairs as if they were his own, and do corresponding justice to them according to their importance. It would not, however, relieve an agent from the

consequences of neglecting the affairs of his principal, to prove that he had been equally careless of his own ; the diligence required of him is that which a prudent man takes in his own affairs. [BAILMENT.] If an agent undertakes a task requiring skill and experience, he is responsible for possessing the requisite amount of these qualities. An agent cannot be bound to perpetrate a fraud for his employer, —thus, where an agent employed to sell by auction, was privately instructed not to sell under a certain sum, and in breach of the instruction, but in obedience to law, sold to the highest bidder, he was found not responsible (*Bexwell v. Christie*. *Corp.* 395). It would have been otherwise had the instruction been to set up at a certain price. In selling, an agent should, if not instructed, obtain the best price which can be got. Unless he hold a *del credere* commission (which see), he is not responsible for the credit of the purchaser. If he knows of the insolvency of the purchaser, he becomes liable if he nevertheless give credit ; and if an agent, selling to a person notoriously in discredit, gives credit on the part of his principal, but takes ready money in his own personal dealings, the presumption against him will be very strong. In purchasing, if the agent deviate in price, quality, or kind, from his instructions, the purchase must go to his own account, unless his employer adopt it ; and it is said that if the principal has advanced money on the goods, he may dispose of them as if he were agent for the agent, if he be at such a distance that they cannot easily and safely be restored. But the principal must make his election speedily, for he will not be entitled after delay to return the goods upon the agent's hands. An agent ought not to place himself in a situation where he has an interest adverse to that of his principal ; and there are many circumstances under which, if he do so, he will be liable to make good the real or presumed injury occasioned. An agent employed to sell cannot be himself the purchaser, nor can one employed to purchase be the seller. An agent employed to purchase cannot buy goods at wholesale, and take the retail profits, though he show that his employer pays no more than he would have done had he employed another person. " If, being a factor, he buy up goods which he ought to furnish as factor, and instead of charging factorage-duty, or accepting a stipulated salary, he take the profits, and deal with his constituent as a merchant, this is a fraud for which an account is due" (*Opinion of Lord Thurlow in East India Company v. Henschman*. 1 *Ves. jun.* 289). An agent ought to give early notice of his transactions, according to their nature and importance ; what is a due fulfilment of this duty will generally depend on the circumstances of the particular case, and the custom of merchants. The agent must pay over monies received to his principal without undue delay. It is said that if an agent has received only part of the price, he cannot be pursued for the money until the transaction is closed, unless the defalcation be owing to his own fault, as he cannot have recourse to several actions where there is but one cause of action (*Varden v. Parker*, § 3. *Espinasse*, 710) ; but the doctrine must be modified by circumstances connected with the probability of the purchaser making farther payments. If the agent take credit for the price in account with the purchaser, he is precluded from pleading that he has not received it. The agent is responsible for the money which he receives, but he is not so for its being absolutely realized to his constituent, if he have taken the proper and customary method of making it over to him. If it is customary in the profession to purchase the bills of persons apparently in good credit, or to lodge the money in a bank, and if, on either of these plans being adopted, the maker of the bill or the banker fail, the agent will not have to make good the loss. If an agent, however, place the money so paid him in a bank, without any mark to show that it is his constituent's and not his own, and the bank fail, he will be responsible, because he cannot be permitted to pitch upon any sum of money lodged in his own name, as the money of his constituent, when the person responsible for it has failed. It is an agent's duty to keep clear accounts of his transactions for his employers, making them carefully distinct from his own. " Where an agent had for many years neglected to keep accounts, and had withheld part of his principal's money, an injunction was granted to restrain the transfer of the whole of certain stock discovered to have been invested in his own name, till he should distinguish on oath how much of it was bought with the money of his principal" (*Paley*, 48). But where a considerable time has elapsed, the natural presumption (if there be nothing to contradict it) will be, that an account has been demanded and rendered. Agents must hold any interest they receive on the money of their principal for his behoof, unless where it is the practice for such interest to form part of the agent's remuneration. Agents are not in general liable for interest of money lying dead in their hands ; but some classes of agents are bound to invest the monies paid to them.

The Agent's Rights.—The agent is in the general case entitled to commission or remuneration for his exertions. This is either ordinary or *del credere*; and where none is stipulated, the usage of trade will fix the amount. It is said that "if there be no contract, express or implied, and no usage, of course no commission can be received" (*Lloyd's Paley*, 101). Where a person performed services for a committee, under a resolution entered into by them, "that any service to be rendered by him should be taken into consideration, and such remuneration be made as should be deemed right," no action lay, as the resolution was held to import that the committee were arbiters in the matter. By 12 Anne, st. 2, c. 16, § 2, the rate of commission for any broker or solicitor procuring a loan is limited to 5s. per £100; and by 17 Geo. III. c. 26, the commission for procuring a loan upon annuity is restricted to 10s. per £100. Where a solicitor lends his own money, he is held not entitled to commission; nor has an agent any claim for commission on an illegal consideration. In other words, if, in stating the services for which he demands remuneration, he has to state the performance of an illegal act, he will not be remunerated, though his principal may have got the benefit of it. Thus, where a person holding an office in the customs, employed another to sell the office, promising him a per centage, the person so employed was not allowed to recover the reward (*Stackpole v. Earl*, 2 Wils. 133). But unless the illegality be clear on the face of the transaction, the employer will not relieve himself by proving that illegal acts were covenanted to be performed in connexion with it. Commission may be forfeited as damages for mismanagement. Besides their commission, agents are entitled to be repaid the disbursements proper to the performance of the duties confided to them, and especially those necessary for the preservation of the property in their hands. Agents are not in the general case entitled to insure, unless justified by usage or special direction; but it is said, on the authority of Mr Justice Buller, that "if an agent, acting for the best, but without orders, insure a cargo on account of the lateness of the season, or other good cause, he is entitled to charge the principal with the premium" (*Paley*, 108). What payments of agents are to be reimbursed becomes often a question of great nicety. Where the authority is doubtful, the advantage to the principal must be clear; and an agent, however good his intentions, will not be reimbursed for payments to which, in mistake, he believes his employer to be liable. An agent is not entitled to take upon himself the payment of the debt of his principal, for the sake of his own credit, unless he have guaranteed it. Nor is he entitled to recover the expense occasioned by his own blunder; and action is decided on for the expense attending an illegal transaction, on the principle which regulates commission in a similar case. To enable them to make good their demands, factors and other agents having property in their hands, have a lien thereon for their commission and costs. [LIEN.]

Principal's Responsibility to Third Parties.—In enforcing any contract entered into by his agent, the principal is subject to any objections arising from the conduct of the agent, in the same manner as if he had acted similarly for himself. When an agent deals as if he were a principal, a purchaser is entitled to set off the price of a purchase against a debt due to himself by the agent. Where a purchaser is not aware of the merely representative character of the agent, he is safe in paying to him as a principal. Where the agent holds a *del credere* commission, the purchaser may pay him, though he have received notice to the contrary from the employer; and where the agent has a lien on a balance, the price amounting to such balance may be paid him. The claims of the principal against third parties in such cases will depend upon the nature of the agency, and on how much room there may be for the presumption that the agent is acting for himself. In this respect a factor, who has goods in his possession, and may appear to be the absolute owner, is in a different situation from a broker who is not intrusted with possession. The principal has action against third parties who have wrongfully come into possession of his property through the agent's fraud or mistake; it would appear that in the former case he is entitled to recover when the circumstances are such that, if the mistake had been committed by himself, he would recover, and in the latter only against a participator in the fraud. The properly authorized acts of the agent, between the principal and third parties, are in the eye of the law the acts of the former. Delivery to the agent is delivery to the principal, and bars stoppage *in transitu* (which see); but a person who has charge of the goods for the mere purpose of facilitating their conveyance from place to place, is not an agent to this effect (*See Paley on Principal and Agent, from which this article is in great measure abridged*). [BROKER. DEL CREDERE. FACTOR.]

PRIVATEER. [LETTER OF MARQUE.]

PROMISSORY NOTE, is a written engagement by one party to pay money to another at some certain time, fixed or ascertainable. Promissory notes bear so close an analogy to bills, both in the nature of the document and its privileges and requisites, that the law regarding both is generally treated under one head. In referring for information to the article Bill of Exchange, it will be necessary to recollect these distinctions,—that in the case of a note there is no party subsidiarily liable as drawer; that the document is a simple obligation between two parties, the one engaging to pay the other; that there is no room for the preliminary obligations of presentment for acceptance, or notice of non-acceptance; and that there is no discountable document created upon the credit of the payee, previously to the obligation of the payer, who, in a promissory note, is generally denominated the maker. The document does not admit of the same breadth of application, nor consequently require so extensive a legal machinery for giving it efficacy. There is no room for the distinction between foreign and inland with regard to promissory notes; but the payee in a promissory note may put himself in the position of a drawer by indorsement, and then the document becomes, like a bill, an instrument which has value on the credit of some party besides the original debtor. The privileges of bills were conferred on promissory notes by statute;—in England, by 3 & 4 Anne, c. 9, § 1; in Scotland, by 12 Geo. III. c. 72, § 36; and in Ireland, by the Irish statute, 8 Anne, c. 11, § 8. Promissory notes made abroad may be negotiated in Great Britain if duly stamped (48 Geo. III. c. 149, § 21). [**BILL OF EXCHANGE. INDORSEMENT. PROTEST, &c.**]

PROOF IN BANKRUPTCY is the technical expression applied in England to the sanction of a claimed dividend. Creditors may prove their debts at the meetings appointed by the commissioners after adjudication, and at other meetings appointed for the purpose. Creditors may make affidavit on their own oath, and corporations on that of their agents. By the late act (5 & 6 Vict. c. 122), affidavits are to be made in England before the Court of Review, or either Subdivision Court, or a Commissioner, or the Master or a Registrar or Deputy Registrar of the Bankruptcy Court, or a Master in Chancery; in Scotland or Ireland, before a magistrate; and abroad, before a magistrate (a notary attesting) or before a British minister or consul (§ 67). Besides the affidavit, the commissioners are empowered “to require such further proof, and to examine such other persons in relation thereto, as they shall think fit” (6 Geo. IV. § 46). There are minute provisions in the 1 & 2 Wm. IV. c. 30, for the judicial settlement of disputed claims.

The petitioning creditor must prove like the others; his deposition at the opening not entitling him either to vote or draw a dividend. Where the assignees, or two or more creditors who have proved to the extent of £20, conceive a debt improperly proved, they may make representation to the commissioners, who, on examination of the creditor and witnesses,—or of witnesses alone, if the creditor, when duly summoned, do not appear,—may expunge the proof (6 Geo. IV. § 60). The jurisdiction of the commissioners is both legal and equitable, and “they may inquire into the consideration of a debt notwithstanding a verdict, and if there are equitable grounds on which the verdict is impeachable, they may reject the proof. It may also be inferred, from an observation of Lord Eldon, that the commissioners may inquire into the consideration even though there be a judgment. So it has been determined that the commissioners may inquire into the consideration of a debt notwithstanding an award.”—(*Henley*, 101).

No debt can be proved which rests on an illegal consideration; and a claim cut off by limitation before the fiat is of course incapable of being proved. An unliquid debt cannot be proved; as, for instance, a claim of damage not judicially sanctioned. A debt contracted after the fiat cannot be proved; and a special clause was requisite to make debts contracted *bona fide* after the Act of Bankruptcy, and in ignorance of the circumstances, proveable (6 Geo. IV. § 47). Some debts are privileged, and the creditor is

entitled to prove and draw the full amount if there be sufficient funds. These are, the wages of servants and clerks, for the period of six months (§ 48), compensation to apprentices for apprentice fees, their apprenticeship being discharged by the bankruptcy (§ 49). By 4 & 5 Wm. IV. c. 40, § 12, where an office-bearer having property of a friendly society in his possession becomes bankrupt, the assignees are bound to deliver over such property within forty days after an authorized demand.

Among the ordinary debts which may be proved, there are to be specially noticed:—

1st, Creditors for future debts, “whether upon any bill, bond, note, or other negotiable security or not,” who must deduct interest at 5 per cent. from the declaration of a dividend to the assigned period of payment (6 Geo. IV. § 51).

2d, Sureties. A surety who has paid is entitled to be put in the place of the original debtor, even though he incurred the security after an act of bankruptcy was committed, if he was not aware of the act (§ 52).

3d, An annuity creditor is entitled to prove to the value of the annuity, “regard being had to the original price given for the said annuity, deducting therefrom such diminution in the value thereof as shall have been caused by the lapse of time since the grant thereof to the date of the commission” or fiat (§ 54). An annuitant is not entitled to procure a collateral surety for the payment till he have proved. If the surety pay the amount proved, he is discharged of further liability; and if he do not pay it before

periodical payment of the annuity become consequent to the bankruptcy, he may be in arrears, until he have paid the amount, with interest at 4 per cent. from the notice of proof. On having made payment the surety comes in the annuitant's place, and is admitted on the estate; and if the annuitant receive any dividends, he must credit them to the surety (§ 55).

Contingent creditors may have their debts proved by the commissioners; and if the contingent do not intervene so as to enable them to prove for the full amount, they may prove for such value (§ 56).

The obligee in any bottomry or response bond, is admitted to claim, and after the contingency to draw a dividend, as if the contingency had happened before the bond. "The person effecting a policy may sue on the underwriters' estate, though not named in the policy, if the person really insured be abroad (§ 53).

The holder of a promissory note on which interest is not reserved, over-due at the date of the bankruptcy, is entitled to prove for interest to the date of the fiat, at the rate allowed by the Court Bench in actions on such bills (§ 57). In other cases, interest is not allowed unless it be of the custom of trade, and be thus a part of a presumed contract between the parties. Costs of litigations; as to which Lord Mansfield observes,—“1. That in any action, whether upon contract or in tort, if a verdict be obtained till after bankruptcy, the costs result from the verdict and judgment are

not proveable under the commission. 2. That in tort there is no debt whatever with which the costs can be incorporated until the judgment; and that therefore, if the bankruptcy occur after verdict and before judgment, proof cannot be made for the costs" (p. 136).

A creditor holding a security over the bankrupt's estate, must deduct its value from his debt before he can prove. An execution served and levied by seizure of the bankrupt's property, is of this description. A person who has a real security over property by mortgage, pledge, or lien, cannot be compelled to part with it till his debt (with contingent claims of interest, &c.) is paid.

In § 50 of the 6 Geo. IV. there are provisions for adjustment in cases of set-off, or compensation of debts and credits between the bankrupt and his creditors.

(Statutes as quoted. *Henley's Bankrupt Law*, 100-117. *Smith's Mercantile L.* 516-547.) [BANKRUPTCY.]

In IRELAND, the law as to the proof of debts is contained in the act 6 & 7 Wm. IV. c. 14, § 56 to 71, and corresponds with the practice in England, except that, by § 57, the Lord Chancellor may issue an extraordinary commission for proof of debts, with the same powers as the Commissioner of Bankruptcy for Ireland, before whom proofs in Ireland proceed. The method of litigating proofs differs with the different construction of the court. [BANKRUPTCY, COURT OF.]

In SCOTLAND, the proof of debts in bankruptcy is chiefly regulated by the act 2 & 3 Vict. c. 41. [SEQUESTRATION.]

PROPERTY AND INCOME TAX. The first income tax in Britain was introduced in 1798, in order to furnish means for prosecuting the war begun in 1793. It exempted incomes less than £60 a-year; those from £60 to £65 were assessed at 1/10th part; those from 65 to 70 at 1/8th; and the rate progressively increased as the income reached £200 or upwards, when it was taxed at 1/5th, or 10 per cent. the maximum; a variety of abatements being at same time granted on account of children and other burdens. The commissioners of management, chosen from parliamentary electors, were assisted, or rather overlooked, by government clerks. But the regulations, though apparently complex, worked well; and notwithstanding that much evasion was practised, the tax, on the whole, was collected with less difficulty and greater fairness than could have been anticipated. It began on April 5, 1798, and ended April 5, 1802, after the peace of Amiens; having yielded on an average about £5,500,000 annually.

In 1803, the income tax was revived under the name of property tax. As before, it was levied on incomes of £60; and gradually increased until the income reached £200, when it was taxed at 5 per cent., the maximum. This rate continued from April 5, 1803, to April 5, 1805, when it was raised to 6 1/2 per cent. On April 5, 1805, it was increased to 10 per cent. on all incomes, however small, arising from property or capital; professional incomes under £50 were exempted; and incomes of any description exceeding £50 and under £150, when they became subject to the assessment of 10 per cent., were allowed abatements ranging inversely as their nature. This tax ceased April 5, 1816. The following is the return of the amount of the several species of property on which the assessment was made, and the gross and net amount of the tax, for the year ended April 5, 1815:—

	Annual Value of Property.	Gross Assessment.	Net Assessment.
Real Property			
Lands, tenements, hereditaments, or heritages...	£60,138,330	£5,923,486	£5,923,189
Houses, lands, and tenements.....	38,396,144	2,734,451	2,176,228
Funded and stock properties (value estimated)...	30,000,000	2,885,505	2,885,505
Profits and gains of trade.....	38,310,935	3,831,088	3,146,332
Salaries, pensions, &c.....	11,744,557	1,174,456	1,167,678
Totals..	£178,589,966	£16,548,986	£15,298,932

In 1842, a combination of circumstances, of too recent occurrence to require detail, led to the proposal of an income tax by Sir Robert Peel, and its introduction at the rate of 7d. per £1, or £2, 18s. 4d. per cent., on all incomes in Britain

of the drawee, and is unaccepted, it may be protested for non-payment at the place where it was drawn payable, without requiring to be a second time presented to the drawee. "In practice in this country," says Mr Chitty, "the holder of bills or notes, whether foreign or inland, himself or by his agent, presents the same for payment on the day they fall due, between nine in the morning and five in the evening, and if not paid, he then sends all his *foreign* bills to a regular notary-public, who sends one or more of his clerks round with such bills in the evening to the respective drawees' residences, and then produces the bills, and again requires payment, and of the charges for noting; and if not paid, he reports to his principal the terms of refusal; and the principal notary afterwards, at his leisure, or as soon as required, draws up his formal protest" (*Chit. on Bills*, 9th Ed. p. 456). In a former edition, Mr Chitty had laid it down as the doctrine of lawyers, that the demand should be made by the notary-public in person. In reference to this opinion, a correspondence ensued between him and the secretaries of the Society of London Notaries and the Association of Liverpool Notaries, in which it was urged by these bodies that the system as above stated was fixed by a long course of practice. The question has not been the subject of judicial decision, and it may be observed that the practice is in opposition to that of other countries (*Traité de Pothier*, II. 149). A protest must bear date on the day of payment.

2d, Inland Bills.—In these, protest is solely the creature of statute. By 9 & 10 Wm. III. c. 17, and 3 & 4 Anne, c. 9, § 4, inland bills in England for £5 and upwards, expressing themselves to be "for value received," and drawn payable a certain number of days, weeks, or months after date, may be protested for non-acceptance; and if accepted in writing, may be protested for non-payment on the day after the last day of grace. The protest, it is enacted, must be sent, or notice given of it, to the party from whom the bill is received, "who is, upon producing such protest, to repay the said bill or bills, together with all interest and charges, from the day such bill or bills were protested" (9 & 10 Wm. III. c. 17, § 2). The object of these enactments was to give prompt recourse for interest and charges. But "the act only gives an *additional* remedy, and does not take away the common-law one, and therefore it is not necessary to protest,—it being, in all cases of *inland* bills, sufficient to give notice of non-payment, and the holder is entitled to claim interest from the drawer, although there is no protest. In practice, a protest of an inland bill is seldom made, but it is only *noted* for non-payment, and which *noting* is of no utility. . . . And a protest made in this country cannot be proven by the mere production of it, as when made and used abroad; but the notary himself must be called to prove the making it" (*Chitty*, 465-466). It is held in interpretation of § 6 of 3 & 4 Anne, c. 10, that protest is not required in bills under £20, to secure the remedy of the statute.

Bayley, 258-267. *Chitty*, 332-343, 445-446.

IN IRELAND, by the statute consolidating the law on bills of exchange (9 Geo. IV. c. 24), it is lawful for the holder of a bill or note for £5 or upwards, to protest it in the usual manner for non-acceptance or non-payment; "which protest, so made as aforesaid, shall be sent, or otherwise due notice of such dishonour shall be given, by or on behalf of the party holding or protesting such bill or note, to the party from whom such bill or note was received, and whom it is sought to make chargeable therewith, and such party shall thereupon pay the said bill or note, together with all interest and charges from the day when such bill or note was protested . . . ; and in case such protest shall be made and sent, or such due notice of the dishonour of such bill or note shall be given as aforesaid, to any person liable to the payment thereof by reason of such dishonour, the person so receiving such protest or notice, and failing or neglecting to pay the amount of such bill or note so protested or dishonoured, together with the costs of such protest, shall be liable to all costs, damages, and interest, which may and shall accrue thereby" (§ 4). The application of this statute, it will be observed, is not limited to bills for value, or payable within a fixed period after date; and the period of sending the protest is not fixed to within fourteen days. On the narrative that it is the practice for bankers and others to attend till the hour of six in the afternoon, for the purpose of receiving payment of bills presented at an earlier hour, and which have not been paid, after which hour they have been sent to a notary-public to be again presented and protested if not paid; "and whereas doubts have existed, whether the acceptors of bills of exchange, &c. have not, by law, till the last instant of the day on which the same respectively may become due to pay the same; and by reason of such doubts, notaries-public in *Ireland* have been required, at late and unseasonable hours of the night, to receive payment, &c.;" it

assessment shall be made when such income is payable out of income already brought in; the party assessed on such income in this case the duty from the interest he pays it to the creditor, and who is to allow such deduction (§ 102).

profits of British trades, &c. are to be assessed where they are situate (§ 106); but profits in foreign countries or the colonies are to be assessed by the commissioner for London, Liverpool, or Glasgow, at or nearest to the property or remittances have been (§ 108).

assessments and returns may be delivered, up, if superscribed with the name and address of the party, to the assessor of the parish at the commissioners' offices, where they have given notice that such office is open (§§ 49, 110).

persons may compound for the duty payable under this schedule for 3 years at an increase of 10 per cent. on the first assessment (§§ 143, 145). Merchants, though not allowed to deduct loss sustained with trade, may yet set off the loss of one business against the profits of another; hence, if a person is a partner in two businesses, one profitable the other not, he should be assessed separately from the other (§ 100).

—Such set-offs are confined to occupations falling under the same schedule.

the tax will be levied by the collector in the ordinary way, unless parties desire to pay it *annually*, before the usual period; in which case a certificate of the assessment, marked with number or letter, will be given to the party, and his counterpart, without his name, sent to the collector.

Interest paid in advance, 4 per cent. per annum of the sum allowed (§§ 137, 140).

Persons objecting may appeal to the Special Commissioners instead of the Commissioners for

General Purposes; or they may have the matter of their assessment altogether taken before the Special Commissioners, making such request to the parish assessor: this, however, is incompetent on the claim of exemption founded on not having £150 a-year (§§ 130, 131).

SCHEDULE E imposes 7d. per £1 upon all salaries, pensions, fees, &c. derived from every public office or employment (§§ 1, 146).

Rules for Assessment.—Perquisites and fees to be taken on the average of three years, or on the preceding year only (§ 146).

Exemptions allowed as in preceding schedules; but no abatement allowed for loss in any business in which the official person may be engaged.

INCOMES UNDER £150.

Although the intent of the act is not to charge the duty on such incomes, yet it imposes the duty in the first instance on all derived from rents or land, or from annuities and interest (except government half-yearly dividends under 50s.), payable through other parties; but any person, on proving to the Commissioners for General Purposes that his aggregate income is under £150, will be exempted from the duties, and be repaid the amount of all deductions or payments made on account thereof.

MANAGEMENT.

“Commissioners for General Purposes,” elected commonly by the Land-tax Commissioners from their own number, are to execute all matters with respect to all the schedules, except those which are to be performed by “Additional Commissioners” (chosen by lot from themselves), who are to consider the statements of gains and profits; and by “Special Commissioners” appointed by the Treasury for acting in certain cases under schedule D, and in other matters. The duties are to be raised under the Commissioners of Stamps and Taxes, under the regulations of the acts relating to the assessed taxes.

PROTECTION, PERSONAL. [PERSONAL PROTECTION.]

PROTEST, in the law of bills of exchange and promissory notes, is a notarial instrument, bearing that a bill or note, having been formally presented to the drawee or acceptor by a notary-public, was dishonoured (by non-payment or non-acceptance, in either case may be), and that the holder protests for recourse (including exchange and re-exchange in foreign bills) against the drawers and indorsers. The laws of different kingdoms differ so considerably on this subject, that it may be convenient to view them separately.

ENGLAND, contrary to the usual practice of the rest of Europe, a protest is not necessary for enforcing recourse on a bill at common law. To enforce payment of foreign bills, however, it became necessary to conform with the rules of countries where they were drawn, and the necessity of protesting all foreign bills both for non-acceptance and non-payment, came into observance.

Foreign Bills.—According to established practice, the protest should be made before a notary-public; but if none can be procured, it is said that the protest may be made by an inhabitant, in presence of two witnesses (*Bayley*, 259). If the person who has drawn the bill abroad come to England, it is not necessary to make a protest to him unless he apply for it. The rules regulating the validity of protest are the same as those which apply to notice [NOTICE]; and protest is not strictly necessary (though it will seldom fail to be prudent) where there are no effects. When acceptance is refused to a bill coming within the definition of those for which a protest is necessary, it should be put into the hands of the notary, who should again present it, and, on a second refusal, he may note the refusal or mark on it his initials, the year and day of the month, and any reason for non-acceptance may be assigned for non-acceptance, together with his charge. The noting of itself no effect, except as the first step in the protest, which, as an instrument, the notary need not draw out on the spot, but may prepare at his leisure. Similar practice is adopted on refusal to pay. The notary's presentment will be made at the place where the bill is drawn or accepted payable, and if at a banker's, during the usual hours of business. By 2 & 3 Wm. IV. c. 98, when the bill is drawn payable at any place other than what it mentions as the residence

of the drawee, and is unaccepted, it may be protested for non-payment at the place where it was drawn payable, without requiring to be a second time presented to the drawee. "In practice in this country," says Mr Chitty, "the holder of bills or notes, whether foreign or inland, himself or by his agent, presents the same for payment on the day they fall due, between nine in the morning and five in the evening, and if not paid, he then sends all his *foreign* bills to a regular notary-public, who sends one or more of his clerks round with such bills in the evening to the respective drawees' residences, and then produces the bills, and again requires payment, and of the charges for noting; and if not paid, he reports to his principal the terms of refusal; and the principal notary afterwards, at his leisure, or as soon as required, draws up his formal protest" (*Chit. on Bills*, 9th Ed. p. 458). In a former edition, Mr Chitty had laid it down as the doctrine of lawyers, that the demand should be made by the notary-public in person. In reference to this opinion, a correspondence ensued between him and the secretaries of the Society of London Notaries and the Association of Liverpool Notaries, in which it was urged by these bodies that the system as above stated was fixed by a long course of practice. The question has not been the subject of judicial decision, and it may be observed that the practice is in opposition to that of other countries (*Traité de Pothier*, II. 149). A protest must bear date on the day of payment.

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is enacted,—that when a notary presents a bill, and it is not paid by 9 o'clock P.M., it shall be dishonoured, and may be protested (§ 12). Notaries are to register bills delivered to them for presentment. All notarial charges (which are fixed by the act) fall on the party liable to pay the bill; and he is liable for the expense of notarial presentment, though the bill be honoured on such presentment, if it have not been so on the presentment of the party. The notary may demand the charges from the person liable, and, in case of refusal, may refuse to receive acceptance, or payment of the principal sum, as the case may be, and hold the bill dishonoured (§ 13).

IN SCOTLAND, protest for non-acceptance and non-payment is, both in the case of inland and foreign bills, an essential part of due negotiation, and necessary to found recourse against drawers and indorsers. Besides being essential to a claim of recourse, it is necessary for recovery even against the original party bound as maker or acceptor, where recourse is sought through the peculiar facilities for enforcing payment of bills of exchange in Scotland, by summary diligence. [DILIGENCE.] The protest is taken by a notary-public, in presence of two witnesses. It cannot be supplied by any description of evidence as to the knowledge of the party that recourse was to be claimed against him, or even by a reference to his own oath to that effect. It appears to be held as law in Scotland, that the presentment for protest must be by the notary himself, and not by his clerk. In practice, the bill is noted on the day of presentment for acceptance, or the day of payment (being the last day of grace, where days of grace are allowed), and the instrument of protest is drawn up afterwards. To render summary diligence competent, the protest must be recorded within six months—if for non-acceptance, from the date of the bill—if for non-payment, from the time for payment. (*Thomson on Bills*, 442-456.)

PRUNES, OR DRIED PLUMS, are brought from the south of France, particularly Tours; they are oblong and rather sweet. The best are the *Pruneaux de St Julien*. Prunelloes, a kind of a reddish-yellow colour, brought from Provence, have a sweet, grateful taste, with a slight and pleasant acidity. The importations are subject to considerable fluctuations.

PRUSSIA, a powerful European kingdom, occupying a great part of the N. of Germany and the N. portion of what was formerly Poland, extends from 49° 8' to 55° 50' N. lat., and from 6° to 22° 50' E. long. Provinces—1. Prussia Proper; 2. Pomerania; 3. Posen; 4. Silesia; 5. Brandenburg; 6. Prussian Saxony; 7. Westphalia; and 8. Rhine. Area, 106,500 sq. miles. Population in 1840, 14,907,091. Capital, Berlin, an inland city; pop. 265,394. Government, an hereditary monarchy, with a council of state, and, since 1823, provincial assemblies, to whom laws are submitted for deliberation; but the royal prerogative is more substantially modified by the power resulting from the intelligence and military organization of the people.

The six provinces first mentioned, bounded N. E. and S. by Mecklenburg, the Baltic, Russia, Poland, Austria, and Saxony, are separated on the W. by Hanover, Hesse-Cassel, and other small German states, from the provinces of Westphalia and Rhine, which again are bounded on the W. and S. by the Netherlands, Belgium and France, and Bavaria. To these provinces, spread over so wide a surface, no general description will apply; but they mostly present a level aspect,—so much so, that many marshes and lakes have been formed by the inundations of the rivers. The mountain-tracts of the Hartz in Saxony, and the Riesengebirge in Silesia, are chiefly on the frontier. The rivers traversing the country, as the Rhine, Weser, Elbe, Oder, and Vistula, flow generally, with a slow current, from south to north. In the western provinces the climate is warmer than that of England; in the eastern it is cold, and also very moist along the shores of the Baltic. On the whole, the soil is sandy and poor. The most fertile and populous districts are Silesia, Rhenish Prussia, and Saxony, particularly the plain of Magdeburg.

Agriculture, though in a backward state, is improving. The rural products resemble those of Britain; differing chiefly in the more extensive cultivation of rye, which, with potatoes, forms the principal food of the lower classes. Flax and hemp are largely raised; also chicory and beet, which last yields about a fourth part of the sugar consumed. Tobacco, hops, and madder, are likewise cultivated; and in the Rhenish districts wine is made. In 1837, the number of horses in the kingdom was 1,472,901; cattle, 4,838,622; sheep, 15,011,452; goats, 327,525; and hogs, 1,036,304. Of the sheep, 3,617,469 were pure merinos, and 7,165,068 half-bred: these fine kinds are principally in Saxony, Silesia, and Brandenburg, and their wool forms the great staple of the kingdom. The small occupiers of land are usually proprietors; the larger owners generally cultivate their estates through stewards,—there being few farms except on the crown domains.

The kingdom, being generally level, is not rich in minerals; but in the Hartz, Riesengebirge, and other districts, iron, copper, zinc, lead, and coal, are plentiful; and amber is found on the coast.

Prussia is mainly an agricultural country, though the Rhine, Saxony, Silesia, and some other parts, are now distinguished for several branches of manufactures. The latter are chiefly in the Rhine province, on the Wupper, in and around Elberfeld and Solingen, which abounds in coal and water-power, and where cottons, silks, and linens are largely produced. Linens are also made for ex-

portation in and around Hirschberg in Silesia, in Westphalia, and in Ermland in Ducal Prussia. Superior broadcloth is made at Epen, Malmedy, Berlin, and Aix-la-Chapelle; and both linens and woollens for domestic use are woven in almost every cottage. Hardware and cutlery are largely made at Hagen, Iserlohn, Solingen, Olpe, and Essen; and Berlin is celebrated for its cast-iron articles. Beer is extensively brewed in all parts; and the consumption of spirits is estimated at nearly 45,000,000 Imp. gallons a-year! Berlin and Halle are the chief seats of the book-trade.

The internal trade of Prussia is facilitated by numerous rivers, almost every where navigable, and so connected by canals, that goods may be transmitted even between Hamburg and Danzig. Excellent carriage-roads also abound, with mail-coaches on the principal lines; and railways have been formed from Berlin to Potsdam and to Stettin, between Cologne and Aix-la-Chapelle, and in other places.

The external commerce of the kingdom is likewise considerable, and rapidly increasing; though, since the establishment of the Customs Union, its amount cannot be ascertained. It extends to almost all parts of Europe, and to America; but the chief intercourse is with the other German states, Britain, Russia, Sweden, Denmark, and the Netherlands. The British trade (except the shipment of grain and timber from the Baltic ports) is mostly carried on at second hand through Hamburg, Bremen, and the Netherlands ports, especially Rotterdam. The imports embrace sugar, coffee, cotton wool, twist and stuffs, and English manufactures of various kinds; dyeing substances, spices, wines, salt (a government monopoly), and coals. The exports consist principally of raw produce, mostly corn, wool, timber, zinc, flax, hams and salted provisions, and bristles; the manufactured exports are chiefly linens, woollens, hardware, jewellery, watches, wooden clocks, Prussian blue, spirits, and beer. [PRUSSO-GERMAN CUSTOMS UNION.]

Timber is now becoming scarce in Prussia; and that shipped is mostly brought to Danzig and Memel from Russian Poland; from whence likewise the corn exported is principally derived. The shipments of corn are very considerable, especially to Britain, Holland, and Norway, in years of scarcity. In 1838, 1839, and 1840, when the crops were deficient in England, the total shipments of grain from Prussia amounted to 25,103,758 scheffels, or about 4,744,610 Imp. quarters, principally wheat, but including considerable quantities of rye, barley, oats, beans and peas; of which 3,149,351 quarters were sent to Britain (*Par. Paper*, 1842, No. 7, p. 61). The chief corn ports are Danzig, Stettin, and Königsberg, especially the first; the exports from Stettin are chiefly the growth of Silesia and the Mark.

The shipping of Prussia is rather small, considering its extent of coast; amounting in 1841 only to 738 vessels, 147,450 tons.

Ports.—Danzig or Gdansk, the principal, a strongly fortified and flourishing city, lies on the left bank of the chief arm of the Vistula, about 34 miles from the Baltic, in lat. 54° 21' N., long. 18° 39' E. Pop. 62,000. The harbour scarcely admits vessels drawing more than 12 feet, but there is good anchorage in the roads for those of any burden. It possesses numerous commercial institutions, shipbuilding yards, and manufactories; but its importance is mainly derived from its being the outlet of the immense territories watered by the Vistula and its tributaries. It is the greatest corn entrepôt of the world; and its exports besides embrace pine batten, deals and beams, oak staves, ashes, bones, wool, zinc, spruce beer, and feathers; most of which articles are, as is usual in the Baltic ports, arranged into three qualities by the *bracket*, a body of government inspectors. In 1840, the exports amounted to £1,798,722, and the imports to £380,380. About 210,000 tons of shipping entered in 1840.

Stettin, a fortified seaport town of Pomerania, situated on the Oder, 36 miles from its mouth, in lat. 53° 24' N., long. 14° 33' E. Pop. 32,000. Vessels drawing more than 7 or 8 feet load and unload by means of lighters at Swinemünde, the out-port, where there is from 19 to 21 feet. It is the chief seat of the Prussian import-trade; and, being the emporium of the countries watered by the Oder and its tributaries, is the port of Berlin, Breslaw, and Frankfurt. Exports; linens, corn, wool, timber, zinc, manganese, bones, oil-cake, &c.; the whole amounting in 1840 to £1,103,545; the imports in the same year were valued at £1,328,900. About 170,000 tons of shipping enter annually.

Memel, the most northerly port, lies in lat. 53° 42' N., long. 21° 8' E., on the N. E. side of the Kurische-baff, a great salt lagoon. Pop. 9000. The harbour is deep and commodious; but, owing to a bar, vessels are frequently obliged to load and unload in the roads, where the anchorage is not good. Shipbuilding is prosecuted extensively; and the staple export is timber, chiefly fir; the annual average amount being about 80,000 loads, besides nearly 600,000 planks. Other exports, corn, flax, hemp, wool, linseed, hides, bones, and bristles. About 100,000 lasts of shipping enter annually.

Königsberg, the capital of East Prussia, lies partly on an island, but chiefly on the N. bank of the Pregel, near its junction with the Frische-baff, in lat. 54° 42' N., long. 20° 30' E. Pop. 68,000. In 1839, the value of the exports, chiefly corn, linseed, rapeseed, bristles, flax, and hemp, amounted to £266,827; and the imports to £486,170. About 70,000 tons of shipping enter annually.

Pillau, Elbing, Königs, Stralsund, Griefswald, Wolgast, and Barth, are the only others worthy of notice. The water at these ports is shallow, seldom exceeding 10 or 12 feet.

MEASURES, MONEY, FINANCES, &c.

Measures and Weights.—The Prussian or Rhineland foot of 12 inches = 12.356 Imp. inches; the ell of 254 Prussian inches = 26.26 Imp. inches, and 100 ells = 72.94 Imp. yards; the fathom is 6, and the ruthe or perch 12 feet. The mile of 2000 perches = 8237 Imp. yards.

The morgen or acre of 180 sq. perches = 3.34 Imp. sq. yards, or 2 Imp. rods 21 poles nearly; and the hufe is 30 morgen.

The ohm, liquid measure, of 2 eimers, 4 ankers, or 120 quarts = 30.23 Imp. gallons; the othoff is 3 eimers; and the tun, beer measure, is 100 quarts, or 25.19 Imp. gallons.

The scheffel, corn measure, of 16 metern, or 48 quarts, = 1.512 Imp. bushel, or 54 scheffels = 1 Imp. quarter nearly; and 100 scheffels = 18.69 Imp. quarters; 60 scheffels = 1 last.

The pound of (2 Cologne marks) 32 loths, or 128 quintins, = 7217½ troy grains; and 100 Prussian lbs. = 105.11 lbs. avoirdupois: the centner or quintal is 110 Prussian lbs. = 115.42, or about 113½ lbs. avoirdupois: and the ship-last = 4000 Prussian lbs. The apothecaries' pound is 7½ of the commercial pound.

Gold and silver are weighed by the Cologne mark, reckoned equal 3600½ troy grains; and

their fineness is expressed in the manner explained under the head GERMANY. The prices of both metals are usually stated in Prussian dollars per mark fine.

The following old measures are still partially in use:—

Berlin.—The ell = 26.25 Imp. inches; the ohm of 2 eimers, 4 ankern, or 128 quarts, = 32.97 Imp. gallons; the last of wheat of 3 wispels, or 72 scheffels, = 103.54 Imp. bushels; and the last of oats of 2 wispels = 69.12 Imp. bushels; the centner of 110 lbs. = 113.63 lbs. avoirdupois.

Dantzic.—The ell of 2 feet = 22.6 Imp. inches; the ohm of 2 eimers, or 128 quarts, = 32.97 Imp. gallons; the last of 3½ maltern, 60 scheffels, or 240 viertels, = 90.24 Imp. bushels. A last of timber is 80 cubic feet; and a last of pipe staves is 4 schocks or 240.

Königsberg.—100 old Prussian ells = 63 Imp. yards nearly. The stof = 0.315 Imp. gallon. The last of 60 old or 56½ new Prussian scheffels = 85.43 Imp. bushels.

Money.—Accounts are now stated in thalers or dollars of 30 silver groschen, each of 12 pfennings, Prussian currency. The Prussian dollar, being estimated at the rate of 14 to the Cologne mark of fine silver, is equal 2s. 10½d. sterling; and 6 dollars, 27 silver groschen, equal £1.

The Prussian dollar was formerly divided into 24 good groschen. The Dantzic florin of 30 groschen = 9d. sterling; and the florin in Prussian currency = 1s. sterling.

The coins are,—In gold; double, single, and half Fredericks, of the nominal value of 10, 5, and 2½ dollars, but bearing generally an agio of 15 per cent. above currency; these are minted at the rate of 35 to the Cologne mark 65-72ds fine: In silver; dollars minted at the rate of 10½ to the Cologne mark, ¾ths fine; also ½, ¼, and ⅓ dollars, and base pieces for 1 and for ½

groschen: In copper; 4, 3, 2, and 1 pfennig pieces.

The usance of bills on Berlin, Dantzic, &c., is 14 days' sight; days of grace 3.

The Prussian state bank issues paper money, which circulates on a par with silver: it has offices at Berlin, Königsberg, Elbing, Dantzic, Stettin, Frankfort-on-the-Oder, Breslaw, Magdeburg, Munster, and Cologne.

Finances.—Net revenue in 1841, 55,867,000 thalers, of which th. 47,200,000 from imposts, including bridge, road, and canal dues, &c., and th. 4,020,000 from domains and forests. The expenditure was about the same, including th. 23,721,000 for the army, and th. 8,574,000 for annual charge on the public debt; the net amount of which, after deducting the sinking fund, was estimated, in 1841, at th. 130,000,000, or about £19,000,000.

Prussia contracted loans in England in 1818, 1822, and 1830; the last being the only one still unpaid. It was to the amount of £3,800,400, in bonds for £100 each, bearing 4 per cent. interest, and payable in London. They are furnished with coupons, and are transferable without registration. A portion is cancelled by the sinking fund.

The remainder of the debt is held by persons on the Continent, where the credit of the Prussian government stands very high.

A Convention with Great Britain, April 2, 1824, provides for the reciprocal abrogation of all discriminating and countervailing duties, levied upon the ships or productions of either nation in the ports of the other. It is to endure for 10 years, and further until the end of 12 months after notice. And by a Royal Ordinance, May 20, 1826, the commerce and navigation of Great Britain is placed in Prussian ports upon the footing of "the most favoured nations."

PRUSSIAN BLUE, the ferrosesquicyanuret of iron of chemists, a pigment or dye, composed of cyanogen and iron, and procured by a chemical process from carbonate of potassa, bullock's blood, green vitriol, and alum. It is prepared of different degrees of purity, and additions are made to it according to the purposes for which it is required. When pure, it is of a rich and intense blue, with a copper tint upon its surface; inodorous, tasteless; insoluble in water, in alcohol, and in dilute acids; but is acted upon and dissolved by strong acids. It is extremely hygroscopic, for, after having been well dried, it speedily attracts moisture.

PRUSSIC ACID, or hydrocyanic acid, is obtained by the action of muriatic acid on bityanuret of mercury. It is limpid, very volatile, and of a strong pungent odour, resembling that of bitter almonds. Its taste is acrid, and it is virulently poisonous. Sp. gr. 706. In medicine it is used as a sedative.

PRUSSO-GERMAN CUSTOMS UNION OR ZOLLVEREIN. This association for assimilating, uniting, and simplifying the fiscal arrangements of the numerous states of Germany, though it naturally arose out of the advancing civilisation of that country, derived its immediate origin partly from the circumstances resulting from the last European war. For a series of years prior to 1814, the "Continental System" of Napoleon, and other hostile obstructions, by nearly excluding British merchandise, had the effect of creating and extending manufactures in various parts of Germany. None of the tariffs of the different states being then prohibitory, except that of Austria, the young manufactures became exposed on the return of peace to the crushing competition of England, and great distress was produced, particularly in the Rhenish provinces, which had at the same time the vast markets of France withdrawn from them by their transfer from that power to Prussia. Influenced partly by the discontent of these provinces, and partly by the exclusion of all her leading staples, except wool, from the markets of Great Britain, Prussia, in 1818, issued a new tariff, which raised the duties on the imports into her dominions. This new tariff, however, though amply protective to her own subjects, aggravated the difficulties of the manufacturers of the smaller German states, whose products it excluded, and who also, shut out from France and Austria, and having their internal trade impeded by numerous and conflicting customs and transit regulations, were now each nearly confined to

the narrow limits of their respective domestic markets. The distressed manufacturers naturally sought a remedy for these evils; and in 1819 an association was formed at Nuremberg, which, gradually numbering 6000 members, ultimately forced the subject upon the attention of the German governments. Many negotiations took place; at length, in 1827, a Customs Union was formed between Wurtemberg and Bavaria; next followed the treaty between Prussia and Hesse in 1828; and about the same time a third union, the *Mittel Verein*, took place between Saxony, Hanover, and some minor states. The former two were soon united by the exertions of Prussia; through whose influence likewise several states were detached from the *Mittel Verein*, which was afterwards dissolved. And in 1833, nearly the whole of the members of these unions were associated into one great league, the *Zollverein*, which came into operation January 1, 1834; and being afterwards joined—in 1835 by Nassau and Baden; in 1836, by Frankfurt; in 1841, by Brunswick and Lippe-Schaumburg; and in 1842, by Luxemburg,—now comprises almost the whole of Germany, except the parts subject to Austria, Hanover, Oldenburg, Mecklenburg, Holstein, and the Hanse Towns.

By the convention of the *Zollverein* all restrictions to communication and transit are removed, internal custom-houses abolished, and a common system and collection of export, import, and transit duties established, to be levied at the exterior boundaries of the frontier states, and divided among the members of the league according to their population: a common system of monies and weights was also provided for; and it was agreed that there shall be a meeting of plenipotentiaries of the associated governments, in June annually, at which the affairs of the league shall be discussed. The duration of the convention was provisionally fixed for January 1, 1842; but if not then terminated (by two years' previous notice), it shall be considered as prolonged for 12 years, and so on from time to time for a further period of 12 years.

STATEMENT of the Total Population of the *Zollverein*, and of the Amount of Customs Duties received, with the Average Amount per Individual in Silver Groschen and Pfennings, and the per Centage Cost of Collection, in each Year from 1834 to 1838.

Years.	Population.	Gross Receipts.				Average per Individual.		Cost of Collection.
		On Imports.	On Exports.	On Transit.	Total.			
1834	23,478,180	13,763,458	422,480	529,534	14,715,442	18	8	16 per Cent.
1835	23,752,354	15,731,182	508,484	526,148	16,759,834	21	9	14
1836	25,719,563	17,332,770	521,378	467,321	18,341,480	21	4	12½
1837	26,013,717	16,866,187	408,549	569,310	17,867,046	20	6	—
1838	26,048,970	17,333,888	561,537	634,267	18,329,347	23	4	—

In the year 1839, the total gross receipts amounted to 20,869,486 Prussian dollars; in 1840, to 21,293,233; and in 1841 (as shown below), to 21,915,944 dollars.

The following Table shows the Area and Population of the several Members of the *Zollverein*, the Amount of Duty raised, and the Shares of the Net Receipts in the Year 1841.

	Sq. miles.	Population.	Duty Raised.	Share of Net Receipts.
1. Prussia, and the states which have come to an agreement with her.	109,198	15,159,031	14,701,635	10,393,289
2. Bavaria	31,259	4,375,686	1,681,171	3,138,681
3. Saxony	8,749	1,706,276	1,878,176	1,229,278
4. Wurtemberg	8,150	1,703,258	474,448	1,251,226
5. Grand Duchy of Baden	5,915	1,294,131	846,364	678,907
6. Electorate of Hesse	3,638	668,980	416,673	404,198
7. Grand Duchy of Hesse	3,793	820,907	515,444	637,415
8. Thuringian Association	4,940	952,421	348,712	606,416
9. Duchy of Nassau	1,750	328,095	33,141	222,282
10. Frankfurt-on-the-Maine	92	61,301	1,126,664	1,106,680
	174,635	27,075,985	20,869,484	19,674,385
			21,126,664	21,915,944

The progress of the *Zollverein* was jealously watched in this country, as the tariff adopted by it was more unfavourable to the admission of British goods than

previously existing in the other states; and our manufacturers feared, without reason, that their trade would suffer in every case where additional duties were imposed. It is impossible to investigate this question minutely, as the trade between Britain and the states of the League passes not only through ports, but also through Holland and Belgium,—the principal channels being Hamburg and the Elbe, Rotterdam and the Rhine, and Bremen and the Weser. But a general estimate will be obtained by a comparison of our trade with these places.

D VALUE of British and Irish Produce and Manufactures exported to Germany, Holland, and Belgium, in the following Years.

	Average of Five Years.		1839.	1840.
	1829-33.	1834-38.		
	£	£	£	£
Wool, raw, &c.	4,358,630	4,865,787	5,215,155	5,408,409
Wool, spun, &c.	47,374	32,845		
Wool, waste, &c.	199,497	152,035		
Wool, waste, &c.	2,402,546	2,843,530	3,563,792	3,416,180
Wool, waste, &c.		856,150	891,831	880,286
Total	6,998,067	8,550,347	9,867,644	9,924,390
Manufactures	2,130,181	2,152,206	1,901,308	1,903,128
Twist and yarn	2,318,848	3,349,856	4,098,977	4,089,175
Manufactures	13,942	39,397	58,984	73,308
Yarn	480	51,970	152,677	168,410
Manufactures	887,972	1,035,291	1,267,486	1,139,631
Yarn	157,484	235,500	322,896	367,999
Wool and mill-work	13,964	90,305	170,361	173,013
Wool and cutlery	118,068	137,790	183,195	157,989
Wool and copper manufactures	58,296	130,355	200,709	209,515
Wool and steel	142,316	297,380	411,947	440,070
Wool	45,105	67,190	123,101	120,679
Wool	482,983	92,303	8,399	5,083
Wool articles	692,433	840,764	998,311	1,075,040

over, while it exhibits a highly satisfactory increase in the amount of our exports, it shows also, as already noticed [COMMERCIAL], that that increase mainly consists of raw products and half-manufactured articles, as coal, iron, steel, twist,

This is quite in harmony with the tariff of the Zollverein, which admits raw materials, and materials serving the ends of agriculture and manufactures, without any, or on very low duties. Thus, raw cotton, wool, coal, pig-iron, hides and skins, potashes, turpentine, chalk, rags, manure, earthenware, black-dye, seed, and such like, are exempt from duty; and low rates are imposed on cotton yarn, the produce of our superior machinery; metals in the earlier process of manipulation; and all articles to which more labour is to be applied. But the duties are pressed heavily, or rather prohibitively, on articles entering into competition with the manufactures of Germany, which are generally of a coarse heavy nature. This is effected by the imposition of a fixed rate on the weight of the goods imported, without any reference to quality or fluctuation of prices; so that it falls lightest on the lightest and heaviest on the common kinds. They are on cotton manufactures, 10s. per cwt.; on woollens, £4, 10s.; on hardware, £8, 6s.; on common linens, 10s. per cwt.; on fine linens, £3, 6s.; and on silks, £16, 10s. per cwt. Estimated *ad valorem*, the duty on cottons varies in this way from 34 to 120 per cent., and on woollens from 50 per cent.; and these percentages will of course increase according to the rise or fall in price. The necessary operation of this system is the exclusion of almost all the commoner articles of foreign manufacture; and all those largely consumed in Germany, for which a complete monopoly is created in favour of the home producer.

The manufactures of Germany, however, are not to be considered as deriving their protection solely from tariff protection. Many kinds,—as those of linens and cottons,—have been long established; and their cotton manufacture, though of very recent introduction, has in some departments, particularly hosiery, even outstripped that of Britain. In truth, much of the progress of manufactures in Germany is the natural result of her return to the arts of peace.

The decrease in cotton goods has been chiefly in printed cottons; especially in red printed Turkish reds, in which the dyers and printers of Germany and Switzerland excel those of Britain. It is indeed probable that British printed cottons will very shortly cease to be any of the Zollverein staples. —(Macgregor's Commercial Tariff, &c., part v. p. 69.)

A monopoly of cheap production, and the exclusive possession of advantages for which civilized man is every where struggling, cannot be always retained by England. Without possessing perhaps the enterprise of the British and Americans, the Germans excel in judgment, calculation, and perseverance ; and they have aptitudes and facilities of their own, which greatly aid the development of their industry. Their habits are eminently frugal ; and wages are very low, especially in Saxony, where potato cultivation and the cotton manufacture appear to have advanced simultaneously. Elementary instruction is provided for all, and special instruction for those who exhibit any particular genius ; and the arts of design, metallurgy, and chemistry, are better understood than with us ; while even in those branches in which our superiority is the most marked, such as machine-making, competition is rapidly marching after us. To these influences has now to be added that of the Zollverein, which, by rendering its numerous states commercially one country, with one frontier, establishing in fact perfect free trade among 27,000,000 of people, and leading in every direction to extensions of the means of internal communication, has given a prodigious impulse to every department of industry.

Yet, after allowing for all these circumstances, the immense capital, and other advantages which still render Britain superior to the rest of the world in manufacturing power, would, there can be no doubt, enable it to export much more largely to the states of the Zollverein were their tariff more liberal. Instead of any modification, however, it is feared by many that the protecting system will be extended, so as to exclude the yarns and other half-manufactured articles of which our exports now mainly consist ; and it is certain that the tendency of the predominant legislation of Germany is to secure more and more of the home market in every stage of the process of manufacture. But this predominancy, we may remark, is rather owing to the youthful vigour, activity, and concentration of the manufacturing interests than to their importance compared with those of agriculture. The latter, which are much more diffused, more productive, and represent a vastly greater amount of capital and labour than the former, are, and must long continue, intimately connected with the foreign trade of Germany ; for it is to distant markets alone they can look for the sale of that surplus produce which home demand does not consume ; and their just influence will doubtless be restored when the Zollverein shall, by its consolidation, have become sufficiently powerful to repress the local and partial influences of its various elements, and blend them into the paramount interests of the whole. To this restoration the progress of commercial legislation in this country, as indicated by the late modification of our tariff, will contribute, as well by checking the flow of capital from rural to manufacturing pursuits in the states of the Zollverein, as by inciting the agricultural interests in those states to control any farther extension of the restrictive policy. It is besides only upon a moderate system of duties that contraband trade can be prevented, and a healthy action permanently communicated to the manufacturing interests themselves. We have, therefore, just grounds to believe that the restrictive tendency of the Zollverein will be checked, or at least not suffered materially to increase ; and that, while the advancing wealth of Germany will naturally lead to an enlargement of its foreign commerce, an important share of this commerce must continue to be held by Britain, from the great amount, variety, and cheapness of her merchandise.

The members of the Zollverein desire its extension ; but, by its fundamental organization, no states can be admitted but those of Germany,—the league being indeed partly the result of a popular feeling among those states for unity and nationalization. Of the different members, Saxony is that which on the whole has profited most by the League, for in that country manufacturing industry being most developed, it had the vantage ground in competing with the others ; and new and extensive markets were opened to her, and at the same time closed to a great extent against foreign rivals. Frankfort-on-the-Maine, again, is that which has experienced least benefit from the League. [FRANKFORT.] Prussia, though the leading and most zealous member, is, in a financial point of view, situated less advantageously than she would have been had her independent tariff been continued : many of her protected classes have likewise suffered from the competition of Saxony. This has led to the general belief that the ostensible object of the Zollverein is neither the only nor the chief motive which has influenced that power, but rather political views, extending beyond the interests of the present day, and tending to its own aggrandisement. The origin of the union, however, was, as we have already explained, commercial ; and this circumstance strengthens the probability of its duration ; but political consequences of the greatest importance cannot fail

to arise from the external relations of the Zollverein. Indeed, the distinction between a commercial union and a political alliance is an imaginary one; since, whatever so completely unites the interests of different bodies of people, must combine their policy, their diplomacy, and, in the event of danger, their strength.

WEIGHTS, MONIES, CONVENTIONS, &c.

Weights.—The weight adopted by the League as the basis of their tariff, is the centner or hundredweight of the duchy of Baden, which is divided into 100 pounds, each equal to the livre usuelle, or $\frac{1}{2}$ kilogramme of France. The Zoll-centner of 100 lbs. is therefore equal to 110.243, or very nearly 110 $\frac{1}{2}$ avoird. lbs.; and 100 avoird. lbs. = 90.708, or nearly 90 $\frac{1}{2}$ Zoll-pounds. Also, 55 Zoll-centners = 64 avoird. hundredweights nearly. The Zoll pound is divided into 30 loths.

The following equations are given in the tariff:—

Zoll-pounds.

935.422 = 1000 Prussian lbs.
1190 = 1000 Bavarian lbs.
2000 = 1000 Kilogrammes.
935.456 = 1000 Wurtemberg lbs.
933.673 = 1000 Saxon (Dresden) lbs.

Or, approximately,

14 = 15 Prussian lbs.
28 = 25 Bavarian lbs.
2 = 1 Kilogramme.
14 = 15 Wurtemberg lbs.
15 = 15 Saxon (Dresden) lbs.

Also,

Zoll-centners.

35 = 35 Prussian centners of 110 lbs.
25 = 25 Bavarian centners of 100 lbs.
2 = 1 quintal of 100 kilogrammes.
37 = 37 Wurtemberg centners of 104 lbs.
35 = 35 Saxon (Dresden) centners of 110 lbs.

Money.—The integer of account in the northern states is the Prussian dollar (*thaler*) or crown of 30 silver groschen; in the southern, the Bavarian guilder or florin of 60 kreutzers. The former is equivalent to 2s. 10 $\frac{1}{2}$ d., the latter to 1s. 8d. sterling; the Cologne mark of pure silver, of 233.855 grammes, being represented by 14 dollars or 24 $\frac{1}{2}$ florins. Hence 1 dollar = 1 $\frac{1}{2}$ florin; 1 florin = $\frac{2}{3}$ dollar; and 15 silver groschen = 52 $\frac{1}{2}$ kreutzers.

A new coin has been struck, common to all the states, of the value of $\frac{1}{4}$ th of the mark of pure silver, and equivalent consequently to 2 Prussian dollars, 3 $\frac{1}{2}$ Bavarian florins, or 5s. 9 $\frac{1}{2}$ d.

sterling. It bears the effigy of the King of Prussia, and has on the reverse the inscription of *Vereins Münze*, or "Union's Money."

Treaties of Commerce have been effected with Holland, the Hanse Towns, and Great Britain. The last mentioned, negotiated with Prussia, March 2, 1841, provides that the vessels of the states of the Zollverein, with their cargoes, consisting of goods legally importable into the United Kingdom and colonies, by the said vessels, from the ports of the countries to which they respectively belong, shall, when coming from the mouths of the Meuse or Elbe, or any navigable river lying between these streams, and communicating with any of the said states, be admitted into the ports of the United Kingdom and colonies, in as ample a manner as if the ports from which such vessels may have come were within the dominions of any of the said states; and such vessels shall be permitted to import the said goods upon the same terms on which they might be imported if coming from the national ports of such vessels.

In like manner, such vessels proceeding from the United Kingdom and colonies to the ports and places thus referred to, shall be treated as if returning to a Prussian Baltic port,—it being understood that these privileges are to extend to the vessels of the states aforesaid and their cargoes, only in respect to each of the said ports in which British vessels and their cargoes shall, upon their arrival and departure, continue to be placed upon the same footing as the vessels of the states of the Zollverein.

This treaty, unless terminated January 1, 1848, by 6 months' previous notice, remains in force until January 1, 1854, and further until the end of 12 months after notice by either party.

Further information will be found in Dr Bowring's "Report on the Prussian Commercial Union," 1840, and in Mr Macgregor's "Commercial Tariffs and Regulations of the several States of Europe," &c., part v. July 1842.

PULLICATES, cotton handkerchiefs, checked, of various colours.

PULQUE, a spirituous liquor made in Mexico, from the maguey or agave.

PUMICE STONE (It. *Pietra pomice*) is generally assumed to be a lava or volcanic glass, though it does not occur in all volcanic countries. It is extremely porous, of a fibrous texture, and is harsh to the touch; colour gray, tinged with brown or yellow; it has a shining, pearly lustre, and is very light. Pumice is quarried and exported in large quantities from Lipari and the isles of Ponza. It is used for polishing metals and other purposes in the arts.

PUNCHEON, a measure of capacity for liquids. [MEASURE, WINE.]

PURPLE WOOD, a tropical cabinet-wood, lately introduced, said to be the produce of a kind of thorn. It is a narrow wood, being only about four inches wide, of a purple colour, and without veins.

PUTCHUCK, the fleshy root of a plant growing in Gujerat. It is largely exported from Bombay and other ports of the N.W. of India to China, where it is used as incense. In its commercial state it is generally mixed with impurities.

PUTTY, a vulgar name for the peroxide of tin, generally used for polishing mirrors and lenses, and for rendering glass white and opaque, converting it into enamel; and for other purposes in the arts. This must not be confounded with the putty of glaziers, which is prepared by kneading chalk with linseed oil.

PYROLIGNEOUS ACID. [ACETIC AGED. VINEGAR.]

Q.

QUARANTINE Laws, regulating the intercourse with countries subject to pestilence, originated in the 15th century in Venice ; and, though also applied to cases of cholera and yellow fever, owe their introduction, as well as their continuance, to dread of the plague of the Levant. They consist of regulations interrupting the intercourse, and subjecting men and animals communicating with the country affected by or suspected of contagion, to a probationary confinement, and goods and letters brought from it (and hence assumed to contain contagious poison) to a process of depuration. The confinement and depuration take place on shipboard, or, as in Malta, Marseilles, and other Mediterranean ports, in isolated establishments called lazarettoes. Goods are subjected to quarantine according as they are *non-susceptible*, a class embracing wood, metals, and fruits ; or *susceptible*, including all animal substances, such as wool, silk, and leather, and many vegetable matters, such as cotton, linen, and paper,—the whole of which are opened up, ventilated, and sometimes fumigated. Every ship is furnished by the sanitary authority, at the last port where it touched, with a *bill of health*, which when *clean* generally exempts the passengers and goods from quarantine ; but if *suspected or foul*, subjects them to it for periods, differing according to circumstances, from about 5 to 40 days ; from which last period the term quarantine is derived. The countries upon the Levant are considered as permanently in a state of suspicion ; and no ship sailing from any of them is considered to bring a clean bill.

These laws are of little importance, except with reference to the Mediterranean trade. British vessels clearing out from the United Kingdom for any place in the Mediterranean or West Barbary, or any other port subjected to quarantine regulations by Orders in Council, are to receive from the Customs Office a printed abstract of the existing regulations (6 Geo. IV. c. 78) for their guidance. Vessels from the Mediterranean and West Barbary, with clean bills, are to perform 15 days' quarantine, to which likewise are subjected ships communicating with such vessels, as also those which, though arriving from other ports of Europe or of America (without quarantine establishments), have on board susceptible articles, the produce of Turkey, Egypt, or Barbary. Vessels with foul or suspected bills are to perform 30 days' quarantine ; and if pestilential disease shall appear during that time, the quarantine must commence anew. Ships from the Mediterranean and West Barbary, not having any infectious disorder on board, but without clean bills of health, are to repair to Standgate Creek or Milford Haven. But vessels bound to any port in the United Kingdom, on board of which the plague shall appear, are required immediately, if to the S. of Cape St Vincent, to repair to some lazaretto of the Mediterranean, and if to the N. of that cape, to Milford Haven. For other vessels liable to quarantine there are various stations throughout the United Kingdom.

These regulations form a serious and in most respects an unnecessary burden upon commerce. Plague is now said by many to be an epidemic merely ; and, though the weight of authority is still in favour of its being also contagious, it is established to be so in a mode and degree much less than was formerly supposed. There is no distinct evidence of merchandise having ever acted as a conductor of plague ; and the received distinction between susceptible and non-susceptible commodities is now held to be fanciful. Great doubts are also entertained as to the capability of the lower animals to communicate the disease. But, provided circumstances be favourable to the transmission of plague, it is still believed that it can be communicated by one person to another, as well as through the medium of the clothes and bedding of patients. The duration of quarantine is besides the subject of deep complaint : the virulence of plague, it is now admitted, must prevent its poison from remaining long latent in the human body ; and, according to the most skilful observers at Malta and elsewhere, the disease usually appears from the third to the sixth day after communication ; never after the fifteenth.

But popular jealousy, as well as the impracticability of effecting a beneficial change without the consent of all neighbouring countries, are obstacles to any alteration of the existing system. Thus, if without such a general agreement, the British government were to change the regulations at Malta, the pratique granted there would not be received elsewhere,—a circumstance which would be fatal to its transit trade, and also to its importance as a quarantine station, now daily increasing from the use of the overland journey to India *via* Egypt. It is probable,

therefore, that no great alteration will ever be effected, except through medical commissioners, acting under the directions of the chief powers of Europe.

QUARTER, a measure of capacity for corn. [MEASURES.]

QUASSIA, an intensely bitter wood, obtained from two trees, the *Q. amara* of Guiana, and the *Q. excelsa* of Jamaica; though the produce of the former is now rare. It is imported in billets; but before being used is cut into chips, which are scentless, and of a light gray colour,—becoming yellow or brownish, however, by long exposure. It is used medicinally as a tonic, and, though forbidden by statute, by some brewers as a substitute for hops. Another variety, the *Q. simaruba*, yields the tonic bark called simarouba, imported in bales from the West Indies.

QUERCITRON BARK, an important yellow dye, the produce of a species of oak (*Quercus tinctoria* or *nigra*) indigenous to N. America.

QUICKSILVER. [MERCURY.]

QUILLS. [PENS.]

QUINCE, a yellow-coloured fruit, of an austere acid taste, the produce of a species of pear-tree (*Cydonia vulgaris*) indigenous to Crete, but common in France, particularly on the Garonne, and also in the S. of England. It is said to be the same with the celebrated apples of the Hesperides. Quince seeds abound in mucilage, and are an article of the materia medica.

QUININE, a white powdery vegetable alkaloid, extracted from the yellow Peruvian bark, and for which it is now advantageously substituted as a medicine.

QUINTAL, generally signifies the weight of a hundred pounds.

R.

RABBIT. [FURS.]

RACCOON, a small species of bear (*Ursus lotor*), valued for its fur, which is used in hatmaking. Its hair is gray, soft, long, and thick, white in the middle, and black at the ends; eyes surrounded with black patches; tail annulated. It inhabits Jamaica and N. America, especially Kentucky.

RAGS (Du. *Lompen*. Fr. *Chiffes, Drapeaux, Drilles*. Ger. *Lumpen*. It. *Stracci, Strasse*. Por. *Farrapos, Trapos*. Rus. *Trepje*. Sp. *Trapos, Andrajos*), or tattered fragments of cloth, are of importance in the arts, more especially when of linen or cotton, for their use in papermaking. The rags of which British paper is made are mostly imported, chiefly from Hamburg, Bremen, Rostock, Ancona, Leghorn, Messina, Palermo, and Trieste. They arrive in our ports in closely packed bags, containing each about 4 cwts.; which, according to the respective qualities of the rag, are marked S. P. F. F., S. P. F., F. F., F. X., and F. B. There are, however, many varieties even in these divisions. About 10,000 tons are annually entered for home consumption. They are generally darker, dirtier, and coarser than the English, but on the other hand are valued from being chiefly linen, while those collected at home are mostly cotton. France, Holland, and Belgium prohibit the exportation of rags, in order to encourage their own long-established paper manufactories: Spain and Portugal likewise enforce a similar prohibition. Of late years, also, the shipments from Sicily have been checked by the imposition of an export duty of 2s. per cwt.; while those from Leghorn to this country have greatly declined, owing to the competing demand of the Americans. [PAPER.]

Woollen rags are commonly used as manure; but some kinds are unravelled, and, after being mixed up with fresh wool, manufactured again into coarse cloth.

RAILWAYS (Fr. *Chemins de fer*), made rudely of pieces of wood imbedded in the ordinary roads, so as to form wheel-tracks for facilitating the motion of carts and wagons, were introduced into the English mining districts in the 17th century; in the succeeding century these were gradually superseded by the plate-railway or tram-road; and edge-rails were introduced in 1801. Shortly afterwards the moveable steam-engine began to be employed instead of animal power for locomotion; but its powers were long very imperfectly developed; and railways continued in little use except for the conveyance of mineral produce to the place of shipment.

The epoch of the modern railway system is fixed at 1814, when George Stephenson invented the steam blast, the life-blood of the locomotive engine, and which increased its speed from 3 to 6 miles per hour. But the capabilities of a railway for the conveyance of passengers as well as merchandise, though indicated by the Stockton and Darlington Railway, 1825, were not fully established until 1829, shortly before the opening of the Liverpool and Manchester line, when a premium

of £500, offered by the directors of this railway for the best steam-locomotive, was, after a keen competition among the most distinguished engineers, awarded to Robert Stephenson, the proprietor of the "Rocket," which, though weighing with tender only $7\frac{1}{2}$ tons, drew 44 tons gross at 14 miles per hour. This was mainly effected by tubing the boiler,—an improvement which increased the evaporating power to three times that of the older engines, with 40 per cent. less consumption of fuel. The result was, that, though the principal inducement to establish the railway had been the traffic in goods, this was so far exceeded by the profit from passengers, that the company were enabled to meet great extra charges, and to divide regularly 10 per cent. annually upon their capital, although the outlay on the work was more than double the original estimate.

The signal success of this undertaking communicated a prodigious impulse to the railway system, not only in the United Kingdom but on the Continent and in America. In England, the leader in this "iron revolution," lines were speedily projected between all the great towns; improvements were made in the modes of constructing the road and laying down the rails; and the evaporating power of the engine was increased by enlarging the boiler and adding to the number of tubes, which, instead of 24 as at first, are now from 90 to 150 and upwards, exposing from 400 to 600 square feet of heated metal to the water, in addition to the area of the fire-box. The average speed of the passenger trains is about 30 miles an hour; but Marshal Soult, when in England, was carried at the rate of 60 miles: and the progress of improvement is such, that no limit can be placed to the rapidity, ease, and cheapness of conveyance by these splendid creations.

FORMATION OF BRITISH RAILWAYS, STATISTICS, &c.

The British railways for general traffic have been all formed by joint-stock companies, acting under the sanction of parliament. Respectable projects commonly emanate from a few individuals interested in the line proposed; though the mass of original proprietors are almost always speculative adventurers. In carrying out the measure, directors of business-like habits and local influence are appointed, who allot themselves into sub-committees to look after the traffic, the surveying, the share-list, and the canvassing along the line, according to their qualifications. Having ascertained that there are no engineering difficulties of a marked character between the two termini, the next stage, if the share-list be found to fill, is to estimate the probable income. This is done by computing the amount of passengers, carriages, and goods passing at particular places on the line, and calculating the probable increase of this "direct traffic" from the cheapness and quickness of the railway, as well as the "contingent traffic" from other places, whence travellers and goods can be carried more advantageously by the proposed railway than wholly by a direct conveyance. In such computations some assistance may be derived from the progress of other undertakings; still, great discrimination will be necessary, as the increase of passengers—the main contributors to a railway—has, according to Mr Lecount, been in all proportions up to 80 to 1.

Meanwhile, the engineer will be engaged in the surveying and levelling. And in most cases a practised man will be able at once to decide upon the principal points of the course, as well with reference to the maximum of traffic, as the avoiding of curves, costly purchases, and expensive operations. As a general rule, a perfectly straight and level line is to be preferred when the termini are of equal elevation, or a uniform slope when one is higher than the other. But as it rarely happens that either of these can be obtained for any great distance without inconvenient and expensive deviations, the engineer so adjusts his inclinations, or *gradients*, as to make the nearest practicable approach to a level; avoiding loss of engine power from undulations, by making all the inclinations on one side of the summit point rise towards it, and all on the opposite side descend from it. The retarding effect of elevations is variously estimated; but it is a common theory that an elevation of 20 feet requires an exertion of power equal to that on a mile of level railway; so that the same power which would move a given load over one mile of railway rising 20 feet, or 1 in 264—the characteristic or ordinary gradient on the South Western, Brighton, South Eastern, and many other lines—would move the same load over two miles of level road; hence making the "equivalent distance" double the "actual distance." In conducting a railway over a considerable elevation, some engineers distribute the rise and fall as equally as possible throughout the whole line; others concentrate them in a few steep planes, where additional engines are used, and make the remainder comparatively level. Thus, in the London and Birmingham Railway, the ordinary gradient is 1 in 330, or 16 feet per mile, which is

nowhere exceeded except in the extension from Camden Town to Euston Square. But the Liverpool and Manchester Railway, on the main line, has no gradient exceeding 1 in 849, except in two planes of about $1\frac{1}{2}$ mile each, inclining 1 in 89 and 1 in 96, near Rainhill ; nor has the Great Western, in a length of $117\frac{1}{2}$ miles, a steeper gradient than $6\frac{1}{2}$ feet per mile, or 1 in 812, except two inclined planes of 1 in 100 ; and on the Edinburgh and Glasgow line, the steepest is 1 in 880, with the exception of the inclined plane on approaching the latter city. Similarity in the gradients is essential to the economical working of a railway by inanimate power. If any inclination occur so steep that the ordinary power cannot ascend it by a reduction of speed, it must either be surmounted by the aid of auxiliary power, or the engine must run over other parts of the road with less than a maximum load, and consequently at an unnecessary expense.

While the engineer is engaged, the solicitor will have been feeling his way amongst the landholders and occupiers, so that refractory proprietors may if possible be avoided ; and after a time he, the engineer, secretary, and directors, will throw all their information into one stock, and select that line which on the whole appears to be the best with reference to its gradients, geology, commercial importance, and the facilities it affords for constructing the works. These and all other preliminary matters require the greatest consideration, from the difficulty, delay, and expense of obtaining acts of parliament for railways, more especially under the present standing orders, which require the plans to be deposited with the Clerks of the Peace by March 1, and in the Private Bill-Office by April 1, in the year preceding that in which the application to parliament is made,—thus allowing a whole year instead of 6 months as before 1837) for interested parties to consider the scheme, and prepare for opposing or advocating it. A general account of the existing regulations will be found under COMPANY. Besides other powers, the Railway Act usually grants authority to borrow an additional sum, equal to one-third of the share-capital, if necessary.

The act being obtained, the land required is set out and purchased. Where exorbitant compensation is required, recourse is had to a jury, who commonly award a sum much less than that claimed. The excavations, embankments, tunnelling, and masonry for bridges, viaducts, and other erections, are then let to contractors ; arranging if possible so that each will be enabled to use all his excavations in his embankments. The “formation level” being thus completed, is spread over with a stratum of broken stone or “ballast,” on which firm dry foundations are placed, the blocks or sleepers to which the rails are fastened ; and the intervening spaces are afterwards filled up with the same material. The ordinary standard width of the rail-tracks, both in Britain and the United States, is 4 feet $8\frac{1}{2}$ inches ; but a few in this country are nearly 6 feet ; and the gauge of the Great Western was fixed by Mr Brunel at 7 feet, in order to allow scope for improvements in power, speed, stability, and convenience ; but this is generally considered to be beyond the most advantageous width. The distance between the tracks is of inferior consequence.

The expense of constructing English railways, all with double tracks, has varied under different circumstances from £10,000 to £50,000 per mile. The annual charges are also extremely variable,—railway expenses being indeed as yet but imperfectly understood. But the experience of several undertakings in this country and in Belgium coincide pretty closely in showing the average proportion of the annual receipts to the annual expenditure to be nearly as 2 to 1. It will be seen from the subjoined table, that in general long lines have been the most profitable.

In the United Kingdom about 3000 miles of railway have been sanctioned by acts of parliament ; upwards of two-thirds of which are intended for the conveyance of passengers and goods by steam-power ; and of these last nearly 1300 miles are in operation. The amount of capital invested in these undertakings may be stated at from £60,000,000 to £70,000,000.

In the United States about 3500 miles were in operation in 1840 ; and the average expense of their formation was only about £5000 per mile, arising partly from the cheapness of land and timber, and partly from their being in great part only single tracks, and in other respects of inferior construction. Comprehensive railway systems have been formed by the governments of Belgium and France. Important lines are also in progress in Germany, Austria, and Italy. And they have been introduced into Russia, Canada, Cuba, Egypt, and other parts,—the engineers being frequently, and the rails and locomotives generally, from England.

acknowledgment of having received the acceptance of a bill of exchange in payment requires a receipt-stamp. But the expressions "Mr T. has left in my hands," and "I have received a bill, &c., to recover," &c., not being given for or upon the payment of money, are held not to require stamps (*Langdon v. Wilson*, 2 *Man. & R.*, 10). A receipt for a given sum requires only a stamp to meet that amount, though it make mention of other sums. A written acknowledgment at the foot of an account, that such account "is correct," may be given in evidence without being stamped. (*Wellard v. Moss*, 7 *Moore*, 503. *Philips on Evidence*. Sir E. L. Tindal's *L. D. voce Acquittance*. *Chitty on the Stamp-Laws*.)

RE-EXCHANGE, the price of a new exchange due on a protested bill.

REGISTRATION—CLAUSE OF, in the law of Scotland, is a form of clause applicable to obligatory deeds, authorizing them to be recorded in the books of a court having jurisdiction to put the deed in force. When the deed is so registered in terms of the clause, it may be enforced as if it were a decree of the court.

REGISTRY OF SHIPS. Before a ship is ready for sea, the property of it is in the same situation as that of any other moveable; but whenever it becomes fitted for its proper purpose, all rights connected with it are, by a law extending over the whole of the British dominions, held under a system of custom-house registration; a compliance with the provisions of which is besides necessary to entitle a vessel to the privileges of a British ship under the navigation laws. The registry of ships was introduced into this country by the Navigation Act of 1660. [*NAVIGATION LAWS*.] It was afterwards the subject of various acts; and at length the whole were consolidated and reduced to a system. The existing regulations are embodied in a statute passed in 1833, of which the following is a very full abstract:—
Abridgment of an Act for the Registering of British Vessels, viz. 3 & 4 Wm. IV. c. 55, with the Alterations of the Act 1 & 2 Vict. c. 113.

§ 1. Act 6 Geo. IV. c. 110, and succeeding acts consolidated.

Certificate and General Regulations, § 2. No vessel is entitled to any of the privileges of a British-registered ship, unless it have been registered in virtue of the act 4 Geo. IV. c. 41, or the act 6 Geo. IV. c. 110, or be registered in terms of this act, and a certificate of registry be obtained in the statutory form.

§ 3. The following are the persons authorized to make registry and grant certificates for vessels in their respective places:—The collector and comptroller of the customs in any port in the United Kingdom, and in the Isle of Man, respectively: The principal officers of the customs in Guernsey or Jersey, together with the governor, lieutenant-governor, or commander-in-chief of those islands, respectively: The collector and comptroller of any port in the British possessions in Asia, Africa, and America, or the collector where there is no comptroller: The collector of duties at any port in the territories under the government of the East India Company, within the limits of their charter, or any other person of the rank in their service of senior merchant, or of six years' standing in their service, appointed to act in execution of the act: The collector at any British possession within the said limits, together with the governor, lieutenant-governor, or commander-in-chief: The governor, lieutenant-governor, or commander-in-chief of Malta, Gibraltar, Heligoland, and Cape of Good Hope, respectively [repealed as to Cape of Good Hope, a collector having been appointed, 1 & 2 Vict. c. 113, § 15]. No vessel can be registered at Heligoland, except it be wholly of the build of that place: and vessels, after having been registered at Malta, Gibraltar, or Heligoland, cannot be registered elsewhere. Vessels registered at Malta, Gibraltar, or Heligoland, are not entitled to the privileges of British ships in any trade between the United Kingdom and any of the British possessions in America. Wherever the act makes provision as to collectors and comptrollers of the customs, the provisions extend to all the above-named officials in their respective circumstances; and all provisions as to commissioners of the customs apply to the governor, lieutenant-

governor, or commander-in-chief of any place abroad where vessels may be registered.

§ 4. Vessels not duly registered, and not having obtained certificate, exercising any of the privileges of a British ship, are liable to forfeiture.

§ 5. No ship can be duly registered by virtue of this act, except such as are wholly of the build of the United Kingdom, or of the Isle of Man, or of Guernsey or Jersey, or of some of the colonies, plantations, or territories in Asia, Africa, or America, or of Malta, Gibraltar, or Heligoland, or such as may have been condemned as prizes, or for breach of the laws for the prevention of the slave-trade, and which wholly belong to British subjects.

§ 6. Mediterranean Pass (now in disuse) may be issued at Gibraltar and Malta for certain ships belonging to these places.

§ 7. No vessel can retain the privileges of a British ship after having been repaired in a foreign country, if the repairs exceed the sum of 20s. for every ton of the burden, unless they have been necessary by reason of extraordinary damage sustained during absence from the British dominions, to enable her to perform her voyage, and to return to some place in the said dominions; and whenever any vessel so repaired in a foreign country arrives at any port in the British dominions as a British-registered ship or vessel, the master or other person having the charge must, upon the first entry, report to the collector and comptroller that the vessel has been so repaired, under penalty of 20s. per ton; and if it be proved to the satisfaction of the Commissioners of the Customs that such vessel was seaworthy at the time when she last departed from any place in the British dominions, and that no greater repairs have been done than were necessary, they may, upon full consideration of circumstances, direct the collector and comptroller to certify on the certificate that it has been proved to the satisfaction of the commissioners that the privileges have not been forfeited, notwithstanding the repairs.

§ 8. Any registered vessel, declared to be stranded or unseaworthy, and incapable of being recovered or repaired to the advantage of the

nd for such reasons sold by order of the benefit of the owners or others, a vessel lost or broken up within the of the act, and can never again be entitled to the privileges of a British-built ship.

British ship becoming prize to an sold to foreigners can again be entitled to the privileges.

Registry can be made in any other place than that to which such vessel belonged of vessels condemned as prizes in Jersey, or Man, which must be reported out below; and any registry contrary to these provisions is null, unless officers be specially authorized to register in any other port by order of the commissioners.

At every port of registry a book to be kept by the collector and comptroller in which all the particulars contained in the certificate must be entered; and the registry must be numbered in progression, at the commencement of each year; the collector and comptroller must, within one month, transmit to the commissioners a true list of the number of certificates granted.

Every vessel is deemed to belong to some place near which some, or one, of the owners, and subscribe the declaration required by the registry, resides, and when such owner transfers all his or their shares, the vessel is registered *de novo* before sailing from the place to which she then belongs, or from any other place in the same part of the United Kingdom, or the same colony, plantation, island, or town; but if the owner or owners cannot immediately comply with these requisites, so that the registry may be made before it be necessary for the collector and comptroller of the port to which the vessel may then be, may certify upon the existing certificate, that the same is in force for the voyage. In the case of a vessel built in any of the foreign possessions known for owners residing in the United Kingdom, if the master or the agent for the vessel produce to the collector and comptroller of the port or near to which the vessel was built, a declaration of the builder required by the act, and a declaration of the names and addresses of the principal owners, bearing that the vessel is identical with the vessel mentioned in such certificate, and that no foreigner, to the best of his knowledge and belief, has any interest therein, the collector and comptroller shall cause the vessel to be surveyed and measured, and give the certificate under their hands and seals, and the vessel, when, where, and by whom the vessel is surveyed, shall have the force of a certificate of registry, and shall be valid, unless the ship sooner arrive in the United Kingdom.

Any person who has taken the oath of allegiance to a foreign state, except under the terms of a capitulation, unless he afterwards becomes a naturalized subject of the United Kingdom, nor any person usually residing in any place out of the dominion of the British Empire, unless he be a member of some British company, or agent for or partner in any house or ship actually carrying on trade in Great Britain or Ireland, is entitled to be the owner, in whole or in part, directly or indirectly, of any vessel registered by virtue of this act.

Declaration, § 13. Before registry and before a declaration, describing the ship, the name, and master, and that no part of the vessel is to be sold to foreigners, must be made and signed (according to a form given in the act) by the proper officer—by the owner, if the vessel is owned by one person; or in case there are joint owners, by both, if both be resident within twenty miles of the place where the registry

is required, or by one if one or both be resident at a greater distance; or if the number exceed two, then by the greater part of the number if the greater number reside within twenty miles; but the number is not in any case to exceed three, unless a greater number be desirous to join in subscribing the declaration, and one is sufficient if all, or all except one, be resident at a greater distance than twenty miles.

§ 14. In case the required number of owners do not personally attend to subscribe the declaration, such as personally attend must further declare that the part-owners then absent are not resident within twenty miles of the place, and have not, to the best of their knowledge or belief, wilfully absented themselves to avoid making the declaration, or are prevented by illness from attending.

Survey and Measurement, § 15. To enable a proper certificate to be granted, it is provided that, previous to the registering, some one or more persons appointed by the commissioners are to go on board, and strictly and accurately examine and admeasure the vessel as to every particular contained in the form of the certificate, in the presence of the master, or any other person appointed on the part of the owners, or in their absence by the master; and they must deliver a true account in writing of all such particulars of the build, description, and admeasurement, as are specified in the form of the certificate, to the collector and comptroller; and the person attending on the part of the owners is required to sign his name to the certificate, in testimony of its truth, if he agrees with the particulars thereof.

§§ 16, 17, and 18, containing provisions for measurement, are repealed by 5 & 6 Wm. IV. c. 56; for which see TONNAGE.

§ 19. Whenever the tonnage is ascertained according to the prescribed rules (except in the case of vessels admeasured afloat), the same is ever after deemed the tonnage, and must be repeated in every registry, unless any alteration be made in the form and burden, or it be discovered that the tonnage had been erroneously taken.

Bond, § 20. At the obtaining of the certificate, security by bond must be given (by the master and such of the owners as personally attend, as above) to the satisfaction of the registering officers, in the penalties following, viz. If the vessel be decked or be above the burden of 15 and not exceeding 50 tons, in £100; if exceeding 50 and not exceeding 100 tons, in £300; if exceeding 100 and not exceeding 200 tons, in £500; if exceeding 200 and not exceeding 300 tons, in £800; and if exceeding 300 tons, then in the penalty of £1000. The conditions of every such bond are as follows:—that the certificate shall not be sold, lent, or otherwise disposed of to any person, but shall be solely made use of for the service of the vessel for which it is granted; and that in case she be lost, taken, burnt, or broken up, or otherwise prevented from returning to the port to which she belongs, or shall on any account have lost her privileges, or shall have been seized and condemned for illicit trading, or shall have been taken in execution for debt and sold by process of law, or shall have been sold to the crown, or shall under any circumstances have been registered *de novo*, the certificate, if preserved, shall be delivered up, within one month after the arrival of the master in any place in the British dominions, to the collector and comptroller of some port in Great Britain, or of the Isle of Man, or of the British plantations, or to the governor, lieutenant-governor, or commander-in-chief for the time being of Guernsey or Jersey; and that if any foreigner, or any person for the use and benefit of a foreigner, purchase or otherwise become entitled to any interest in the vessel, and the same shall be within the limits of any port of the British dominions, as above, the certificate shall,

§ 39. If upon any change of property in a vessel the owners desire to have her registered *de novo*, although not required by the act, and the proper number attend at the custom-house at the port to which she belongs, the collector and comptroller may make such registry, and grant certificate under the above regulations.

§ 40. Every collector and comptroller is bound, upon reasonable request by any person or persons, to produce for inspection any oath, the declaration, or register, required by the act relative to any vessel, and permit extracts to be taken, which, on being verified, are evidence in courts of justice, without requiring production of the originals or the attendance of officials.

§ 41. If the property in a vessel, belonging to any person out of the kingdom, be sold in his absence by his known agent or correspondent, under his directions expressed or implied, and acting for his interest, the agent executing a bill of sale, without having received a legal power to do so, the commissioners, upon application made to them, and proof of the fair dealings of the parties, may permit the transfer to be registered, or to be recorded and indorsed, as the case may be, as if legal power had been produced; and if it happen that a bill of sale cannot be produced, or, by reason of distance of time, or the absence or death of parties, it cannot be proved that a bill of sale had been executed, and registry *de novo* shall have become necessary, the commissioners, upon proof of the fair dealings of the parties, may permit the vessel to be registered *de novo*, as if a bill of sale had been produced. In any of these cases, however, sufficient security must be given to produce a legal power or bill of sale within a reasonable time, or to abide the future claims of the absent owner and his representatives, and at the future request of the party whose property has been so transferred, the bond must be available for the protection of his interest, in addition to any right which he may have against the vessel or the parties.

§ 42. When any transfer is made only as a security, either by way of mortgage or of assignment to trustees for the purpose of sale for payment of a debt, the collector and comptroller of the port of registry must, in the entry, and in the indorsement on the certificate, express that the transfer was made only in security by way of

mortgage, and the holders are not to be deemed to be the owners, nor the persons making the transfer to be deemed to have ceased to be owners, any more than if no such transfer had been made, except so far as may be necessary for the purpose of rendering the property available by sale or otherwise for the payment of the debt.

§ 43. When any transfer in security has been duly registered according to the provisions of the act, the interest of the mortgagee or other assignee cannot be affected by any act of bankruptcy committed by the mortgager or assigner, after the time of registration, notwithstanding such mortgager or assigner, at the time of becoming bankrupt, has the vessel or share in his possession, and is reputed owner.

§ 44. Every governor, lieutenant-governor, or commander-in-chief of any of the British possessions abroad, is required, if a suit be commenced in any court where he governs, touching the force and effect of any register, upon representation, to cause all proceedings to be stayed, if he shall see just cause so to do, until the decision of the king in council be known and certified to him; and such governor is required to transmit to one of the secretaries of state an authenticated copy of the proceedings, with his reasons for causing them to be stayed, and such documents (properly verified) as he may judge necessary for the information of his majesty.

§ 45. Persons making declarations, or counterfeiting, erasing, altering, or falsifying any writings required by the act, or wilfully using falsified documents, or wilfully granting any certificate or other instrument, knowing it to be false, forfeit £100.

§ 46. *Penalties and Forfeitures* are recovered and disposed of in the same manner as those incurred by the Custom-House Regulations.

[By 1 & 2 Vict. c. 113, § 12-14, if a British vessel be lost, or by change of property, &c., ceases to be a British vessel, the owners must immediately, on their becoming acquainted therewith, give notice to the collector and comptroller at the port of registry. Where a British vessel has been absent from her port for three years, they must give notice stating the cause of absence, and that she has not forfeited her privilege. Failure to comply, or falsehood, renders the party liable to a penalty of £3.]

REGRATING, buying and selling again commodities in the same market.

RENTE, in the French funds, is a term synonymous with annuity.

RESERVE, in Banking, the portion of capital kept to meet current demands.

RESINS, a class of inflammable substances, of vegetable origin, of which common *rosin* furnishes an example. They are solid, brittle, of a certain degree of transparency, and a colour commonly inclining to yellow. When pure, they are soluble in alcohol and in oils, but not in water, in which respect they differ from gums. They are more or less acted upon by the alkalies. The most important are Rosin, Mastich, Sandarach, Elemi, Tacamahac, Animi, Labdanum, Copal, and Lac, which are described under their respective heads. [Gums.]

RESPONDENTIA is a contract by which money is raised on the chance of the safe arrival of a ship's cargo, in the same manner as on the safe arrival of the vessel, in Bottomry. It is to be used in the same emergencies, and gives the creditor the same recourse against the borrower. There is no hypothec over the cargo, as there is over the vessel in the case of Bottomry, and hence the security is merely personal. [Bottomry.]

REST, a term sometimes used in Banking to denote the undivided profits remaining at the period of balancing. It also expresses the period of balancing.

REVENUE AND EXPENDITURE, PUBLIC. The public revenue in this country, as in most other parts of Europe, originally consisted of the rents of crown lands, and of sums levied from the subject simply by the exercise of the royal prerogative. After the Conquest, the practice was introduced of the barons and military tenants of the crown, assembled in "Great Council," making grants in pressing emergencies, which were raised by taxes; and this practice was extended

representatives of the commons were admitted to parliament in the 13th century; more especially after the crown estates became reduced by alienations. Still, down to the end of the reign of Elizabeth, by far the larger portion of the revenue was derived from sources over which parliament retained no control. Thus, duties of tonnage and poundage [Customs] were usually conferred upon each monarch at his accession for life. And, from these and other sources equally permanent and independent, Elizabeth, although the grants to her averaged not more than £70,000 a-year, enjoyed a revenue of about £500,000; which was also expended without any check from either house.

Still the same system was continued under James I. But a change took place in the reign of Charles I., whose lofty opinion of the prerogative led him, though he levied the duties of tonnage and poundage at his accession, to levy these, a new duty on ship-money, and other exactions, without the sanction of the legislature. Differences between the king and parliament ended in a rupture in 1641, before which the public revenue amounted to nearly £900,000. A period of transition occurred from the ancient to the modern system. During the Commonwealth, the post-office was established, and other financial innovations introduced, most of which were continued after the restoration of Charles II., in whose reign stamp-duties were first levied. A return was made to absolute principles in the last years of Charles; and still more after the accession of James II. A complete revolution took place on the abdication of the latter, and the succession of William and Mary in 1688, when the exaction of money from the subject by the exercise of the prerogative ceased; and all taxes were afterwards imposed by the authority of parliament. The customs, or the duties upon exports and imports, and the excise-duties—those upon the manufacture or consumption of commodities—became the great sources of the public revenue. Considerable additions to the revenue branches were made during King William's reign; and the system of sinking and funding money was introduced. In 1701, the year preceding his death, the revenue amounted to £3,895,205; of which the customs produced £1,100,000; the excise, £986,004; and the land-tax, of 2s. per pound, £989,965. The total amount raised by taxes and loans during his reign (1689-1702), of which 11 years were years of war, was about £72,000,000.

In the 12½ years of Anne (1702-1714), of which 11 were years of war, the total amount raised by taxation was about £62,000,000, and by loans nearly £60,000,000. In the 13 years' reign of George I. (1714-1727), the amount raised by taxes was £10,000,000, and by loans nearly £3,000,000; but again £5,000,000 of debt were redeemed. In 1727, when this king died, the produce of the taxes was £6,762,643; the customs yielded £1,530,361; the excise, £1,927,354; and the land-tax, of 2s. per pound, £2,000,000. In the 33 years' reign of George II. (1727-1760), of which 15 were years of war, the amount raised by taxes was £217,000,000, and by loans about £60,000,000. In the latter part of this reign the revenue increased considerably, principally through the extension of the excise system; and in 1759 it amounted to £8,523,540; of which £1,985,376 were derived from customs, and £6,539 from the excise.

In the 59 years' reign of George III. (1760-1820), which witnessed so wonderful an augmentation both of the general wealth and of the government expenditure, increased with a revenue from taxation of only £8,800,000. Nor, at the commencement of the American war, 1779, was it much beyond £10,000,000. At the peace of Versailles, 1783, it was nearly £12,000,000. In the 10 years of peace that followed, it made a very considerable advance, having, in 1793, when the war with France broke out, risen to nearly £20,000,000. But the extraordinary increase began from 1797, the year of the suspension of cash payments by the bank, when the produce was about £23,000,000. In 1798, the year following, it rose to £31,000,000; and went on regularly advancing till 1815, the last year of the war, when the total of revenue, the produce of taxation, paid into the Exchequer, reached, after paying the expenses of collection, the enormous sum of £72,210,512. The loans raised in this eventful period were also on a gigantic scale: the amount raised from this source, including Exchequer bills, beyond the amount redeemed, in 23 years from 1793 to 1815 inclusive, having been £432,707,263; and the total amount of revenue and loans, raised for public uses in the same period, £461,819. The expenditure, including interest upon the debt, during the 10 years from 1806 to 1815 inclusive, averaged £84,067,761 per annum. In 1814, the total expenditure amounted to £76,780,895; and the interest upon the debt to £1,365, making together, £106,832,260, the largest annual outlay ever made; that of the previous year, 1813, was £105,943,727, and of the year subse-

quent, 1815, £92,200,100. Nothing at all approaching to these financial operations occurs in the history of the world. (*Porter's Progress of the Nation*, § 4, c. 2).

A considerable reduction of taxation took place after the return of peace. In 1816, the reductions amounted to £17,547,265; mainly consisting of the property-tax, £14,316,573, and the war malt-duty, £2,792,000. Some addition was made to the taxes in 1819. But important abatements were again made in 1822, and still more in 1823, when the salt-duty and assessed taxes were reduced to the extent of £4,185,733. In 1824 and 1825, the customs on coals, silk, wine, tobacco, coffee, and a variety of other articles, were abated, and the remainder of the excise on malt; the whole amounting to £3,300,000. In 1826, the duties on British spirits and other articles were reduced not less than £1,967,215. In 1830, the beer-duty was repealed, £3,055,000, also duties on sugar, hides, and skins. In 1831, the customs on sea-borne coals, printed cottons, and other articles, £1,588,052. In 1832, the excise on candles, £476,544; in 1833, the soap-duty and various assessed taxes, £1,500,000; in 1834, the duties on windows, Irish spirits, &c., £2,064,516; and in 1836, duties on paper, spirit licenses, &c., amounting to £1,021,786. No other important abatement took place until the introduction of the uniform penny postage in 1840; in which year, however, the loss of income from this source, and the increased expenditure consequent on the military operations in Canada, China, and elsewhere, led to the addition (with certain exceptions) of 5 per cent. to the customs and excise duties, and of 10 per cent. on the assessed taxes. The total amount of taxes repealed, expired, or reduced, in the 27 years from 1815 to 1841 inclusive, was about £45,000,000; and of taxes imposed, £8,000,000; the excess of the former above the latter being thus £37,000,000.

The following table shows the revenue and expenditure (including charges of collection), the difference between them, and the taxes imposed and reduced in each of the 20 years to 1841; to which is added, for comparison, the average price of wheat according to the London Gazette, and the declared value of the exports of the produce and manufactures of the United Kingdom.

Year	Revenue		Expenditure		Taxes		Wheat per qt	Value of Exports	
	Revenue	Expenditure	Revenue	Expenditure	Imposed	Reduced			
	£	£	£	£	£	£	s.	d.	
1822	30,227,721	53	4,744,470			2,179,141	43	3	
1823	30,401,717	54	4,740,740		18,308	4,185,733	51	9	
1824	30,679,091	53	3,889,172		49,645	1,301,337	62	0	
1825	37,944,100	4	3,042,949		40,140	3,676,830	65	6	
1826	55,609,723	6	2,747,712	645,410	109,765	1,967,215	56	11	
1827	56,114,145	4	3,081,81	107,474	21,407	84,389	56	9	
1828	57,701,31	4	3,245,904			1,966	61	30	
1829	55,934,963	54	2,73,442				1,206,000	65	3
1830	54,832,28	51	2,211,673		695,004	4,185,733	64	3	
1831	51,012,600	57	465	640,847	6,7,505	1,623,306	65	4	
1832	51,523,007	4	614,750		44,526	747,264	50	8	
1833	50,671,707	49	221,314			1,396,914	52	11	
1834	50,815,271	41	1,000,115		150,704	2,464,810	46	2	
1835	50,400,579	40	707,600		5,573	165,077	39	4	
1836	52,049,975	5	2,16,000		4,521	1,021,786	40	6	
1837	50,061,35	11	113	655,760	100	274	53	10	
1838	51,775,52	1	748	745,220	1,743	290	64	7	
1839	51,927,405	44	207	1,519,709		63,230	70	9	
1840	51,050,4	53	441,053	1,593,970	2,135,673	1,218,000	69	4	
1841	52,303,949	54	465,310	2,101,700		27,174	64	3	

The deficiency for 1842 was computed by Sir Robert Peel, in March of that year, at £2,570,000; to meet which he proposed a tax of 7d. per £1 on all incomes in Britain exceeding £150, estimated to produce £3,700,000; the raising of the Irish stamp and spirit duties to the same rates as those of Britain, reckoned to bring £410,000; and an export duty on coals £300,000; total, £4,310,000; affording a surplus of £1,740,000, to be applied to a reduction of the timber duties and others, and to meet the expense of military operations in China and elsewhere. This plan, after a modification of the proposed duty on coals, was sanctioned by parliament.

THE BUDGET, or annual exposition of the finances submitted to the House of Commons by the Chancellor of Exchequer, does not exhibit an articulate account of the revenue and expenditure, but merely a statement of the sums required to be voted for the public service, under the different heads of Navy, Army, Ordnance, and Miscellaneous Articles, together with any incidental charges which may apply to the year, with the ways and means for meeting the same,—comprehending the

surplus of the Consolidated Fund, after defraying the charges upon it, the annual duties, and such incidental receipts as come in aid of the national resources.

The Consolidated Fund,* formed by Mr Pitt in 1786, at present embraces all the branches of the revenue except the annual sugar-duty. It is specially burdened with the interest and other payments on account of the national debt, the civil list, pensions, and other permanent grants by parliament. The surplus is always considerable; of late years about £14,000,000.

The Annual Duties comprehended formerly the malt and land tax, which, on constitutional principles, were reserved for special annual grants, as a restraint on the power of the crown. On the land-tax being rendered perpetual in 1798 [LAND-TAX], certain duties on sugar and tobacco, and on offices, pensions, and salaries, were substituted in its place. Of late years, however, the only tax reserved for an annual grant is the sugar-duty, estimated usually at £3,000,000.

The application of the supplies of each session is regulated by the *Appropriation Act* (introduced as a restraint on the improvidence of Charles II.), which is passed after all the grants have been made, and usually indeed contains, along with the appropriation clauses, the authority for making the last payments out of the Exchequer.

In the event of the revenue proving insufficient for the expenditure, the deficiency is temporarily supplied by means of exchequer bills; which are also issued in anticipation of the growing duties. [FUNDS. SUPPLIES. UNITED KINGDOM.]

REVERSIONS. [ANNUITY. INSURANCE ON LIVES. INTEREST, COMPOUND.]

RHATANY ROOT, derived from the *Krameria triandra*, consists of cylindrical ramifications, varying in size from that of a quill to a finger. It is imported from Peru, and is used as an astringent medicine.

RHODIUM, a rare and extremely hard and durable metal, obtained by Dr Wollaston from platinum ore. Sp. gr. 11. Its scarcity is said to be the only bar to its extensive employment in the arts, as it forms valuable alloys with other metals, particularly steel.

RHUBARB (Fr. *Rhubarbe*. Ger. *Rhabarber*. It. *Reobarbaro*. Por. *Ruibarbo*. Rus. *Rewen*. Chin. *Tu-hwang*), a medicinal root obtained from a plant (*Rheum palmatum*?) which inhabits the lofty mountains of Central Asia. Three kinds of it are distinguished—namely, Russian, Turkey, and Chinese or East Indian. The Russian rhubarb is the best, as very great attention, both in purchasing it at Kiachta from the Bucharrians, and in transporting it from thence to Moscow and Petersburg, is paid by order of government, and the bad pieces are burned by an inspecting apothecary. It possesses a fine bright reddish or whitish yellow colour, and a strong fragrant smell; and is commonly in round pieces, often perforated with so large a hole that many have the appearance of a mere rind. Turkey rhubarb is derived from the same source as the Russian, but is generally darker and coarser, from less attention being paid to the trade. The Chinese or East Indian is heavier, harder, and more compact than the others; seldom perforated with holes, and is either in long pieces or with two flat sides, as if they had been compressed. The rhubarb imported into this country, with the exception of a small quantity from Russia, is derived almost exclusively from China. Nearly 50,000 lbs. are annually entered for home consumption.

HYBRID RHUBARB (*Rheum hybridum*) is a well-known plant, extensively cultivated in this country for its large succulent stalks, used in confectionary.

RIBAND (Fr. *Ruben de Soie*. Ger. *Band*. It. *Nastro di Seta*. Sp. *Cinta de Seda*), a name given to silken bands of various widths and colours, much used by females for headdresses and other purposes. They are both plain and figured, and are sometimes distinguished into saracenet, satin, &c., according to the manner in which they are made. They are also frequently ornamented by having what is called a *pearl edge* given to them. Ribands are woven in pieces, each 36 yards in length. The finest are made entirely of Italian silk; the next in quality of a mixture of Italian and Bengal silk; and the commoner sorts altogether of Bengal silk. The great seat of the manufacture of ribands is Coventry, where they are now made of quality equal to the finest of the productions of the Lyonesse weavers: they are also made at Congleton, Derby, Macclesfield, Leek, and other places. [SILK MANUFACTURE.]

* In the early part of the funding system a separate account was kept of each loan, and of the tax imposed for payment of the interest. The inconvenience and confusion of this method led to the appropriation of the various branches of revenue into three funds;—the *Aggregate Fund*, 1715; and the *South Sea* and *General Funds*, 1716,—each chargeable with the payment of certain annuities then due by the public. And in 1786 these were formed into one fund, thence termed the *Consolidated Fund*.

of the surrounding ground, have proper drains, and an exposure to sun d, so as to produce rapid evaporation of moisture.

LAND, according to Blackstone, every parish is bound at common law to keep the roads in good condition; and by the 2 & 3 Philip and Mary, c. 8, the parishioners were according to their ability, to provide labour and implements for four days' work upon the usually. This rude plan of forced or *statute labour* (then common in Europe) was improved acts; but in course of time it was gradually superseded on all the great thoroughfares by the turnpike system; and it was also abandoned for other highways in 1835, when the laws relating to parish roads were consolidated by the act 5 & 6 Wm. IV. c. 50. This act authorizes a committee elected annually by the vestry, to levy a rate on the parish, on the basis of the poor rate; the rate-payers, however, being empowered, if a majority see fit, to divide among themselves the carriage of the materials required for the roads. A number of parishes may unite to employ a surveyor; and in parishes having more than 5000 inhabitants, a highway board may be established.

The turnpike system, or plan of raising a revenue for the construction and repair of roads by imposing tolls at gates or *turnpikes*, though introduced by the 26 Ch. II. c. 1, was not brought into any extent until after 1763. Under this system, the road is placed, according to its character, under the management of one or more sets of trustees, who are appointed by statute, and consist of the landed proprietors and principal farmers and tradesmen in the vicinity. The trustees are committed to surveyors appointed by them; and the trustees, being empowered to raise loans on the security of their revenues, are enabled very speedily to complete any undertaking. In 1839, the number of turnpike trusts in England and Wales (including consolidations) was 1,532,956; and the amount of loans for which the tolls were mortgaged, was £1,194,699 of arrears of interest, and the amount of the float-

summary in 1841 by Mr Tidd Pratt, of 16,965 returns, made pursuant to the act 2 & 3 Wm. IV. c. 50, by surveyors of parishes, townships, or places which repair their own highways (168 parishes, however, being deficient for England and 125 for Wales), it appears that in 1839 the length of turnpikes was 19,605 miles; of streets or roads repaired under local acts, 2069 miles; and of other highways, 96,942 miles; making of highways for wheeled carriages in England and Wales, 118,556 miles. The amount of rates levied in 1839 (exclusive of turnpike dues), was £12, 18s. 5d. per mile, and in law and other expenses £2,000 miles of turnpikes and roads under local acts, was nearly £51 per mile; whereof—£9 on repairs; £9 on improvements; and £6 on management.

LAND, the ancient system was that of the statute or compulsory labour of the inhabitants to repair the roads before and 3 days after harvest; and the act 5 Geo. I. c. 30, provided that, in the event of the statute being insufficient, an assessment, not exceeding $\frac{1}{4}$ per cent. on the *valued rent*, might be levied on landed property. After 1750, this plan was superseded as to the great thoroughfares by the turnpike system, as in England. It has also been greatly modified in other respects; most of the parishes having obtained local acts commuting the statute labour for a fixed money payment, or varying assessments on landed property, varying in each county according to circumstances. By these acts the road-administration is vested in trustees, embracing the sheriff's deputy, the provost and two eldest bailies of each royal burgh in the county, all justices of the peace, owners of estates worth £100 Scots a-year and upwards of valued rent, and their eldest sons or one guardian or trustee of all minors possessing such amount of property. The county is divided into districts, each placed under the resident trustees and surveyors appointed by them; the district meeting prepares annually a state and estimate for the general meeting, which has the power to order an assessment on the occupiers of land, and which in other respects directs and controls the district meetings. Sufficient powers are given to the trustees for obtaining land and for the roads and bridges.

In the northern counties a different system of supervision prevails under the "Commissioners of Highland Roads and Bridges," appointed by government in 1803 with the view of stimulating improvement in these districts. They are authorized to decide upon the roads proper to be repaired, and to superintend their execution; the expense being defrayed by government and the proprietors jointly, each one-half. This measure has been highly successful; and about 900 excellent roads, and upwards of 1100 bridges, have been constructed in this way. The old roads formed by General Wade (1720-1730) were placed under the management of the commissioners in 1814; and about 300 miles of them are still kept up.

There are no statistics of the ordinary county roads of Scotland; nor of the turnpikes later than 1835, when their length was 3666 miles; the number of trusts, 190; the amount of their debts, £82; and income, £187,584.

LAND, the statute labour system was abolished in 1763, when the road administration was vested in the grand juries. Mail-coach roads are determined upon by the postmaster-general, and the expense defrayed by a tax on the county. The supplies for other roads are raised by a tax on the property for the portion within its boundaries. Since 1831, also, a considerable extent of roads has been constructed at the public expense, under the board of public works, constituted by the act 5 & 6 Wm. IV. c. 33.

Of the roads in the United Kingdom, the best is usually stated to be that between London and Holyhead, constructed, under the superintendence of parliamentary commissioners, by Mr Telford; but, in general, the English roads are greatly inferior to those of Scotland, more especially the turnpikes and those formed by the Highland commissioners, which, notwithstanding the rugged nature of the country, have been of moderate acclivities, and are indeed in every respect models of the manner in which the difficulties presented by a mountainous country may be successfully overcome. This superiority in the northern roads is stated by Sir Henry Parnell to be "in consequence of the excellent materials which abound in all parts of

Scotland, and of the greater skill and science of Scotch trustees and surveyors" (*Treatise on Roads*, p. 313). Much is also due to the superiority of the Scottish country management over the English parish system. The Irish roads are likewise, generally speaking, well laid out and in good repair. Indeed, both Ireland and Scotland possess natural advantages as to material for road-making to which England cannot lay claim, more especially the district between the Tees and the Trent, where the formation is chiefly coal, sandstone, and soft limestone.

ROMAN or PAPAL STATES, stretch across the central part of the Italian peninsula in an oblique direction, from the Adriatic to the Mediterranean, and between Tuscany, Modena, and Lombardy, on the N. W., and Naples on the S. E. Area, 17,222 sq. miles. Population in 1833, 2,742,000. Capital, Rome; pop. 133,000. Government, an elective monarchy, the pope for the time being the absolute sovereign, with a consulting assembly of cardinals.

The papal territory is divided into two unequal portions, mostly level, by the Apennines, which traverse the country from N. W. to S. E. The most extensive is the western portion, which contains the city of Rome and the Tiber; but a great part of it is waste and pestilential, particularly the Campagna in Rome and the Pontine Marshes. The eastern portion, especially Bologna and the March of Ancona, is more fertile and better cultivated; producing wheat, maize, rice, hemp, and tobacco. The elevated districts supply timber, fruits, and even silk, wine, and oil, but of a quality inferior to those of the Tuscan and Neapolitan territories. The manufacturing industry is mostly confined to coarse woollen cloths, for the internal consumption. There are, however, silk establishments at Rome and Bologna; iron-works at Bracciano, Canino, Conca, and other places, for which iron-ore is brought from Elba; and glass-works, and manufactories of paper, soap, lace, liquors, wax-candles, and catgut in several towns. But all the productive industry of the country, and especially agriculture, is in a state of backwardness, from the poverty and ignorance of the people, the perpetual intervention of the ecclesiastical authority, as well as heavy taxes and ill-directed legislation.

The provinces on each side of the Apennines having little communication with each other, some are exporting while others are importing the same kinds of produce. A surplus of corn generally exists in the N. provinces, while in the S. there is a deficiency. Again, olive-oil is exported from the S., while in the N. about 3,000,000 lbs. are annually brought from S. Italy and Tuscany. The chief commercial relations are with Naples, Tuscany, Lombardy, and Great Britain. The exports to England, according to Dr Bowring (*Report*, p. 81), consist mainly of grain, hemp, rapé, sulphur, silk, tartan, wool, lamb and kid skins, and cork; and the imports from it of colonial produce and spices, cod, pickards and herrings (largely consumed in Lent and other fasts), drugs and dye-stuffs, lead, copper, steel, tin-plates, cotton twist, piece goods of all sorts, hardware, and iron and steel goods, jewellery, earthenware, porcelain, isinglass, coal, whale-oil, and ivory. British vessels land at Civita Vecchia; but the above-mentioned articles are chiefly shipped to England from Leghorn, Genoa, and Marseilles. The vessels which land their cargoes of salt-fish, sugar, and coal, at Ancona, generally proceed to Messina or other ports for return cargoes. The total imports from all countries are estimated at £7,438,000, and the exports at £1,042,000.

Porto-Alexandria, in the Adriatic, lat. 43° 30' N., long. 13° 35' E.; pop. 30,000. It is a free port, and the harbour is good,—indeed the best on the coast from Venice to Manfredonia. Exports, corn, silk, wool, wax, hemp, rapé, &c. In 1838, 1292 vessels, burden 66,823 tons, cleared with cargoes valued at 1,149,150 scudi.

Civita Vecchia, the only good port on the W. coast, lies in lat. 42° 5' N., long. 11° 44' E., 16 miles N. W. of Rome. Pop. 8000. The harbour is from 14 to 18 feet deep; and there are docks and a lazaretto. 1130 vessels, burden 133,402 tons, cleared in 1837.

MEASURES AND WEIGHTS, MONEY, FINANCES, &c.

Measures and Weights.—The foot = 11·72 Imp. inches; the mercantile canna of 8 palmi = 78·33 Imp. inches; the builders' canna of 10 palmi = 87·56 Imp. inches. The mile = 1638 Imp. yards, or 7½ furlongs.

The tavola censuale = 1000 sq. metres = 1196 sq. yards; the rubbio = 18·484 tavole.

The wine bottle of 32 boccali or 128 feliette = 18·54 Imp. gallons; and 16 barili = 1 botte; the soma of oil of 40 boccali = 36·14 Imp. gallons; and the oil bottle is 26 boccali, or 12·65 Imp. gallons.

The rubbio of corn of 4 quartè, 22 scorzi, or 26 quartucci, = 8·10 Imp. bushels.

The pound of 12 once, 268 denari, or 6912 grani, = 3554 Troy grains; and the quintal of 10 decine, or 100 lbs., = 74·77 lbs. avoirdupois. The apothecaries' pound, and that used for gold and silver, are of the same weight as the commercial pound.

In Ancona the braccio = 25·33 Imp. inches; the wine soma of 2 barili or 24 boccali = 18·50 Imp. gallons; the rubbio of corn of 8 coppe = 7·87 Imp. bushels; and 100 Ancona lbs. = 73·75 lbs. avoirdupois.

Money.—Accounts are stated in scudi (crowns

or dollars), divided into 10 paoli, or 100 bajocchi. The value of the scudo is 4s. 2d. sterling,—the par of exchange with London being estimated at 48 paoli or pauls per £1. The paolo is thus worth 3d., and the bajaccho ¼d. sterling.

Bankers' accounts are kept in pauls.

The principal coins are the gold doppia or pistole, worth about 32 pauls; the silver scudo, half scudo, and pieces for ½, 1, 2, and 3 pauls; also in base silver, pieces for 2, 4, 7½, and 15 bajacchi,—the two last being termed single and double carlini; and in copper, bajocchi, halves, and quarters. The old louis-d'or is current at Rome for 44 pauls, the napoleon for 37 pauls, and the Spanish dollar for 10 pauls.

The notes or *billete* for 5, 10, 20, 25, and 100 scudi, issued by the *Banco dello Spirito Santo*, and *Monte di Pietà*, are employed in the payment of sums exceeding 5 scudi.

Bills on London are commonly drawn at 90 days' date. No days of grace.

Revenue in 1835, 8,812,961 scudi, chiefly from land-taxes, customs, lotteries, and government monopolies of salt, tobacco, alum, vitriol, &c.: Expenditure, 9,429,799 scudi, including 2,347,553 on account of the national debt.

ROAD, the one-fourth of an acre; also a term applied by artificers to 36 square yards of stone, brick, or slate work.

ROPE, a larger kind of cordage, generally formed by a combination of vegetable fibres. Except for ship-cables, for which iron-chain is now much used, hemp is the substance principally employed in this country in the manufacture of rope, though it is occasionally made of Indian jute and coir. Of late years, hemp mixed with caoutchouc has attracted some attention; likewise cordage made of wire.

A hempen cable of 12 inches girth, and length 120 fathoms, weighs 3075 lbs. And as the weights of two cables of equal lengths will be as their sections, or squares of the girths, we have the following rule for the weight:—Multiply the square of the girth in inches by 21 (more accurately 21.3), the product is the weight in lbs. Also, as the breaking strain will be as the section, it will be as the weight, and will be found nearly by dividing the weight in lbs. by 100; the quotient is the breaking strain in tons. This rule is of course liable to uncertainty from the quality of the cable.

ROSE, a well-known flower (*Rosa*), from the petals of which rose-water is distilled, and a butyraceous oil or perfume called *Attar* or *Otto of Roses*, largely manufactured in India, Persia, and Turkey. The latter is a very costly article; 20,000 lbs. of rose leaves being required, according to Bishop Heber, to yield attar equal in weight to a rupee; and it is often adulterated with oil of sandal-wood, and the crystalline appearance of the genuine article imitated by the addition of spermaceti. The real attar congeals with a slight cold, floats in water, and dissolves in highly rectified spirits of wine. It is seldom imported from India for sale; but considerable quantities are brought from Turkey. The English oil is of a very inferior odour, and apt to become rancid.

ROSEWOOD (Por. *Pao de rosado*. Sp. *Leno de rosa*), a beautiful fancy-wood produced by a large tree found in Brazil, India, and the Canaries. It should be chosen in large pieces, of irregular knotty grain, well filled with resinous fibres, sound, and heavy. It is of a reddish colour; has an agreeable odour; and is esteemed according to the degree in which the darker parts are distinct from the purple red, which forms the ground. Rosewood is used for cabinet-work, either solid or cut into veneers, nine to an inch; and, next to mahogany, is now the wood most in use for such work. About 1600 tons are annually imported, chiefly from Brazil.

ROSIN, a commercial name for the residuum of the distillation of turpentine: it is a light, hard, brittle, inflammable substance, transparent, and of a dark colour. There are several kinds,—as black or common, and amber rosin. It is made at Hull, London, and other ports communicating with the Baltic states; and is used in the manufacture of soap, varnishes, and other articles.

ROTTENSTONE, a kind of clay of a dirty gray or reddish-brown colour, passing into black: it is dull, earthy, soft, meagre to the touch, and emits an unpleasant odour when rubbed. Localities,—Bakewell in Derbyshire, Wales, and Albany near New York. It is used in polishing metals.

RUBLE. [RUSSIA.]

RUBY, a name applied by lapidaries to two kinds of precious stones essentially different. The Oriental ruby, next to the diamond the most valuable of gems, is properly a red sapphire. The other rubies are different varieties of spinel.

RUM is a spirit procured by distilling a fermented fluid prepared from the refuse in the operation for making sugar; the peculiar flavour being derived from an essential oil existing in the juice of the cane, which is brought off by the spirit. The product of the distillation is colourless; but is afterwards coloured by the addition of a little burned sugar. The best is made from molasses [SUGAR]; and it is preferred when well kept and of good age, considerable body, smooth oily taste, and of a brownish transparent colour. When of a fiery taste and limpid colour it is either too new or adulterated, as it often is, especially by retail dealers, either with corn spirit or home-made molasses spirit; which last, from similarity of taste, is not readily known from the genuine liquor.

The West India Islands and Guiana are the countries chiefly distinguished for the produce of rum, more especially the British possessions. The best is that of Jamaica, the produce of which is likewise highest in quality; what in trade is called "Leeward Island rum" is inferior to it, though still good. The quantity annually produced depends generally upon the nature of the season; but the change occasioned by the abolition of negro slavery has of late years led to a gradual decline in the shipment of rum, as well as of the other West India staples. In the three years ending 1831, the average importation into the United Kingdom from the West Indies (including Guiana) was 7,180,000 gallons; but in the three years ending 1841, the average was reduced to 3,524,320 gallons,—the importation in 1841 being indeed only 2,770,161 gallons. [WEST INDIES.]

The imports from the West Indies, after supplying the United Kingdom, have

generally left a considerable surplus, especially of the inferior kinds, usually sent to the other colonies, Germany, and elsewhere; and there is still a re-exportation, notwithstanding the diminished production of the West Indies: the consumption of this country having also declined, until in 1841 the quantity (exclusive of that used for marine stores) was only 2,300,000 gallons; being below the amount at the beginning of the century, which was upwards of 3,000,000 gallons. This decline has been comparatively greatest in Ireland and Scotland, especially the former, where the consumption, though 800,000 gallons in 1800, has fallen to about 20,000, owing to the great rise of duty during the war, and the substitution of home made spirits.

The importations of rum from other countries have until lately been nearly confined to small occasional parcels from the foreign West Indies and Brazil, none of which, owing to the discriminating duty in favour of our colonial produce, was entered for home consumption. In 1836, however, the duties on East and West India sugar were equalized, and the rule which confined the navy contracts to West India rum abolished. These measures were followed by importations of East India rum—in 1840 to the extent of 312,000 gallons. And this trade has been further stimulated by the equalization, in 1842, of the duties on East India and West India rum, by the reduction of the former to the colonial rate of 9s. 4d. per gallon. The admission of East India rum to the British market will probably lead to improvements in its quality, which at present is very low.

The rum supplied to the navy is furnished duty free, as also that required for stores by merchant ships. The annual amount thus delivered in the United Kingdom, on an average of the 11 years ending 1839, was—for the navy, 372,000 gallons; for ship stores, 315,000 gallons.

RUPEE. [INDIA.]

RUSSIA, an empire comprising the whole northern portion of the eastern hemisphere, from the frontiers of Prussia and the Gulf of Bothnia on the W. to the Pacific on the E.; also a large tract on the N. W. part of America; with numerous islands contiguous to these countries. The whole, exclusive of certain territories called *oblasts*, is divided into about 75 governments or viceroyalties. Area estimated at 7,700,000 sq. miles; and population at 62,000,000, of whom about 47,000,000 are contained in European Russia. Capital, St Petersburg. Government, an absolute monarchy.

This empire is divided into two great parts by the Ural Mountains, which on the N. separate Asiatic from European Russia. The former is generally a vast level region, declining imperceptibly towards the Arctic Ocean, and rising gently towards its southern border, where it is lost in the immense mountain-ranges which separate it from the Chinese empire and Tartary. The northern portion of this tract is mostly a frozen desert, but the southern is generally fertile. The whole of this region, however, as well as the American territory, being but thinly inhabited by barbarous tribes, possesses as yet little or no commercial interest; and we shall therefore principally confine our attention in the present article to the tract which lies to the W. of the Urals, embracing European Russia and the country between the Black Sea and the Caspian—the main body and seat of the wealth and power of the empire.

European Russia may also be considered as one vast plain. If the Ural Mountains on its eastern border, and a mountain-tract in the Crimea be excepted, there is in this immense region no part elevated more than 500 feet above its base, or 1100 feet above the sea-level. That great tract of low land which begins in Northern Germany, expands in Russia to its greatest breadth, extending 1200 miles; and the water-shed which divides the rivers that flow to the Baltic, Arctic Ocean, Black Sea, and Caspian, consists merely of a table-land, in the N. E. parts called the Uvali and Valdai Hills, whose declivities form long and generally imperceptible slopes. The most fertile region traverses the central part north-eastward, from between 48° and 52° on the W. to between 53° and 56° N. lat. on the E.; and lies between 25° and 50° E. long. Farther north, the country is for the greater part covered with forests or bogs, until we arrive at the shores of the White Sea or Arctic Ocean, where it is mostly a swampy desert, particularly towards the N. E., between the Urals and the river Mezen, the region of the *tundra*. The fertility also decreases to the S. of the central region, especially where it lies contiguous to the *steppes* of Southern Russia and of the river Volga, which are vast plains, formed chiefly of sand, and destitute of wood, except here and there a stunted birch.

The *Climate* of Russia is much colder than that of other European countries in the same latitude; and the farther we proceed eastward the temperature becomes still lower, arising from the dry uncultivated surface of the land, its distance from the ocean, and the vast regions traversed by the north and east winds. The summer heat of Russia, however, is in general greater than in other countries under the same parallels. The provinces which border on the Baltic and on the White Sea have a wet climate; and this feature extends to the elevated tract which borders the basin of the Volga, on the N. and W. Farther east the rain decreases in quantity; and the southern districts have a dry climate.

The *vast Forests* of Russia constitute one of its most remarkable features, and a principal source of wealth; the timber, tar, pitch, and ashes derived from them forming staple exports. They abound chiefly in the north, covering about three-fourths of its extent between 65° N. lat. and the Volga; the trees being pine, fir, larch, alder, and birch, with a few limes. The central provinces, between the middle course of the Volga and the Dnieper, have scarcely sufficient wood for

consumption; but extensive forests, chiefly pine and fir, occur on the W. of this tract, on the swamps of Pinsk and Ratnor, and on the banks of the Niemen, whence, and by sea, much of the produce of the district is conveyed to the Prussian ports of Memel and Danzig, and in part by the Duna to Riga. To the east, also, of the central district there are pine and fir forests in the governments of Perm and Viatka; and of oaks, limes, elms, in those of Kazan, Niznei-Novgorod, Pensa, and Saratov. The oak forests are chiefly along near Tchiborsar. The southern provinces are almost entirely without trees.

Minerals Russia is rich. The chief mines are situated in the Ural and Altai Mountains, and chiefly occupy the vicinity of Nertschinsk in Siberia. In 1837, the produce of gold from the Siberian mines was about 470 poods, equal in value to nearly £1,000,000; that of silver, from the Ural and Siberian mountains, 3000 poods, £330,000; and the annual produce of platinum, from the Urals, is about 140 poods. Copper is produced to the extent of 210,000 poods a-year, from Olonetz and the Ural and Altai ranges; lead, 40,000 poods; and iron, about 170,000 poods, chiefly in the Urals; also in the Altai, Caucasus, Valdai Hills, &c. Other metals and coal they are not worked. Salt is procured in the Urals, the Crimea, and other places, chiefly in the S. provinces; but it is deficient in the Baltic provinces, where it is imported from Prussia and Austria.

Agriculture is but in its first stage; yet the grain produced is much more than is required for consumption. The S. Baltic countries, Poland, and the governments nearest to Moscow, have the greatest proportion of cultivated land. Rye, the most common grain, may be grown in all parts except the Arctic region and the steppes; it is produced in greatest quantity in the district of the cataracts of the Dnieper, in 48° N. lat. on the S. and the Volga on the N. The culture of barley extends to 67° N. lat. Oats are extensively cultivated in the districts through which the great roads and water-courses run; but they do not succeed N. of 62° N. lat. Wheat is the principal object of culture in the fertile tracts along the southern rivers, especially in the Ukraine (a country comprising Volhynia, Podolia, Kiev, and Poltava), and in Voronetz, Tambov, and Simbirsk; the produce of which districts is largely conveyed to Odessa and Taganrog for exportation. Farther north wheat is less grown, though in some favoured spots it succeeds even 59° N. lat. Millet is grown in the upper regions of the Don, Oka, and Dnieper; and the S. extremity of the empire.

Flax and hemp are produced more extensively in Russia than in any other country; both succeed N. of 55° N. lat.; but the chief localities are those adjoining the upper course of the Volga, in the governments of Tver, Jaroslav, and Kostroma: they form, with linseed and hempseed, staple articles for export from the Baltic ports and Archangel. Tobacco is much cultivated in the Ukraine.

For rural products, the most important are black cattle (also principally in the Ukraine), the hides of which are extensively exported; and sheep, which are still more numerous, though the wool is in general of inferior quality. Horses and goats also abound; likewise hogs, the flesh of which are largely shipped from the northern ports; and in the regions adjoining the Caspian numerous wild animals are killed for their skins and fur. The rearing of bees is a common occupation of some tribes, especially in Kazan and Oufa, and the wax produced is very valuable.

Fisheries of most value are those of the rivers Volga and Ural, and of the Sea of Azof; but some caviar and isinglass from the S. ports, scarcely any of their produce is sent to foreign countries.

Manufactures were called into premature existence by Peter the Great, and, under the influence of the protective system, they have risen to some consideration, especially of late years. The manufactures in 1839, exclusive of mines, furnaces, and smelting-houses, were 6855 in number, employing 412,931 work-people; which, according to the official report, was an increase in three years of 140 manufactories, and of 50 per cent. on the workmen. Of these manufactories, 616 were for woollen goods; 227 silk; 467 cotton; 267 linen; and 486 metal wares: the rest consisted of tanneries, tallow melting-houses, candle and soap works. The chief seat of manufactures is Moscow and its government; and next, the governments of Vladimir, Niznei-Novgorod, Petersburg, and Tula. The Russians excel in the manufacture of leather; and from advantages in respect to raw material, their canvasses, strong linens, cordage, felt, mats, soap, candles, caviar, and isinglass, are quite as good as those made elsewhere; but in all other branches their products cannot compete with those of Western Europe, more especially as to finish, durability, and cheapness; and their existence is therefore dependent on the continuance of a restrictive or rather prohibitory system of import duties. The annual value of the Russian manufactures was estimated in 1837 at £23,000,000; and in 1841, at £30,000,000.

Internal Trade is very extensive; and it is facilitated by the vast means of internal communication afforded by the Volga, Dwina, Niemen, Duna, Don, Neva, and their tributaries, which, of a level nature of the country, are nearly all navigable, especially those which rise north of 55° N. lat. And this navigation has been improved by canals, by means of which the Volga is connected with the Neva and the Dwina, so that goods may be sent by water from St. Petersburg or Archangel to Astracan and the Caspian. The Volga has also been united with the Dnieper, which falls into the Sea of Azof; and the Pripiet, a branch of the Dnieper, is joined to the Vistula, thus connecting the Black Sea and the Baltic. The frost interferes with navigation during a considerable portion of the year; but again, it affords great facilities for sled-carriage and travelling by means of sledges. There are few good roads, with the exception of that between Petersburg and Moscow, and some other principal lines. Moscow is the great entrepôt of the inland trade. But a great portion of it is carried on by means of annual fairs, the most remarkable of which is that of Niznei-Novgorod, the centre of the immense system of inland navigation we have just noticed, situated at the confluence of the Oka with the Volga. This fair, which begins June 29, is frequented by about 300,000 strangers, including many from Western Europe and even the frontiers of China; and in 1839, the value of the goods exposed was £7,250,000; while at twenty-one other principal fairs, the chief of which were those of Romna, Charkov, Kursk, and Rostov, the amount exposed was £8,700,000.

Internal Commerce of Russia is cramped by the prohibitory system of import-duties imposed on the protection of her home manufactures; it is further impeded by the small extent of the navigable seacoast, and by the obstructions to its navigation for a considerable period of the year by ice. Still, the wants of so vast a population render its amount in the aggregate very

considerable. The principal branch of trade is that with Great Britain, chiefly through the northern ports; that with Italy and Turkey, through the southern ports, ranks next in importance; and there is also an active intercourse with the neighbouring Baltic states, the Netherlands, France, and the Hanse Towns; but (except with the United States and Cuba) there is little intercourse with more remote places. Besides her maritime commerce, however, Russia carries on a considerable trade by land across her European and Asiatic frontiers. In this way tea and other articles are procured from the Chinese, with whom an exchange of commodities takes place at Kiachta. In 1839, the total value of the exports from Russia was 330,000,000 rubles, or £14,780,000; and the shipping despatched (exclusive of coasters) amounted to 6582 vessels, 1,184,636 tons; of which only 131 vessels, 165,990 tons, were Russian. Of the shipping entered, nearly two-thirds were in ballast, arising from the coarse and bulky nature of the exports compared with the imports.

The British trade took its rise in the reign of Elizabeth, shortly after the discovery (1554), by Richard Chancellor, of Archangel, the port to which it was long confined. Notwithstanding the existing restrictions, it is very extensive, though inconsiderable to what it might become under a system of free trade; no other countries in the globe being, naturally, better fitted to supply each other's wants. The annual amount of British produce and manufactures (according to the declared value in England) imported into Russia, on an average of the five years ending 1835, was £1,488,900; and on an average of the five years ending 1840, £1,765,900. About two-thirds of the whole consist of cotton-twist and yarn: the only other article of any consequence is woollen cloth, nearly £12,000; the remainder is chiefly made up of cottons, machinery, coals, hardware, iron and steel, salt, refined sugar, tin, woollen yarn, ale, and beer. Considerable quantities of indigo (about 1,000,000 lbs.), coffee, cochineal, shellac, logwood, pepper, pimento, raw cotton, quicksilver, rum, tea, wine, and other foreign and colonial products, are likewise supplied by Britain. The returns from Russia embrace all her staple products already described. In 1840, the principal quantities were—470,400 cwts. flax, tow, and cordilla; 598,840 cwts. hemp; 1,115,041 cwts. tallow; 4,517,908 lbs. sheep's wool; 1,476,761 lbs. bristles; 435,511 quarters wheat and oats; 14,441 cwts. hides; 31,388 cwts. skins; 284,160 ells and 3000 pieces linens; 2,567,316 bushels linseed; 12,233 boxes tar; besides timber, ashes, rhubarb, rapeseed, and other articles.

The Russian merchants are divided into three guilds or classes of different degree, to one of which every merchant must belong, according to the nature and extent of his trade, by holding an adequate annual license. And the privilege of trading is granted to foreigners not owing allegiance—1st, as *artificial* merchants, styled *foreign guests*; and, 2d, as *travelling* merchants, making short residence. There is, besides, the body of petty dealers or trading peasants, divided into four classes of different degree, which are also regulated by annual licenses. The chief other classes are the *bohrs*, a kind of slave peasantry, who compose the bulk of the population; and the nobles. Of the latter, many are extensively engaged in manufactures, in which they employ their bohrs as workmen.

The produce in different parts of the country is bought up by travelling dealers, who prepare and transport it for sale to the seaports, frontier towns, and fairs; where in return they purchase supplies of foreign goods. In the trade with the Baltic ports these dealers lay in their stocks in the interior between October and March, and transport them to the ports during the spring and summer months for delivery, if previously contracted for, to the purchasers, or for chance sale for exportation. The foreign trade is chiefly carried on by wealthy merchants of foreign extraction, partly foreign subjects, including many Germans and British, settled at the seaport and frontier towns, and also at Moscow, whose connections abroad enable them not only to pay ready money to the inland dealer for the produce they buy of him, but also to make advances thereon without interest at fixed contract prices, 6 or 8 months before delivery, besides granting long credits to the same parties, and other inland buyers in selling to them goods imported or received on consignment. (*Clark's Russia Trader's Assistant.*)

BALTIC PORTS.

St Petersburg, the magnificent capital of the empire, founded by Peter the Great in 1703, is situated in lat. 59° 36' N., long. 30° 19' E., on the banks and islands of the Neva, near its mouth, at the E. extremity of the Gulf of Finland. Pop. in 1839, 476,000. It excels all the other cities in manufactures and commerce, though its navigation is closed by frost generally from November until May. Above 12,000 barks annually arrive from the interior with articles for consumption and shipment. In 1839, the principal exports were—239,000 poods flax (not half the usual quantity, it may be remarked); 2,250,000 poods hemp; 3,700,000 poods tallow; 108,000 poods hides; 834,000 poods iron, mostly in bars; 184,000 pieces sailcloth, raveducks, and flens; 5,000,000 arches, diaper, drillings, and crash; 170,000 chetwerts wheat, rye, and oats; 75,000 poods bristles; 885,000 pieces lath-wood and battens; 80,000 poods sheep's wool; 312,000 poods hempsed oil; 90,000 poods copper; 193,000 poods cordage; and 448,000 poods potash: the chief other articles were feathers, hair, window-glass, quills, rhubarb, calf-skins, furs, soap, and candles. In the same year the principal imports were—230,000 poods cotton wool; 500,000 poods cotton yarn; 1,260,000 poods sugar, almost all Havannah; 700,000 poods salt; madder, indigo, brimstone, alum, gum, margarine, opium, quercitron, dye-woods, and other drugs and dyestuffes; fruit, herrings, lard (100,000 poods), rice, olive-oil (170,000 poods); silk ribands and handkerchiefs, cambrics, muslins, and tulle; pepper, rum, tobacco (50,000 poods); champagne and other wines; woollen goods and camlets. And the total value of the exports was £6,050,000, and of the imports, £9,075,000; embracing together about two-thirds of the external commerce of the empire.

Cronstadt, the port of St Petersburg, likewise the principal station of the Russian navy, is situated in an island 22 miles distant, in lat. 59° 59' N., long. 29° 46' E. The mercantile port is safe, deep, and commodious. The channel, higher up, is available only for craft not drawing more than 8 or 9 feet. In 1838, the amount of shipping despatched from Cronstadt was 1314 vessels, 361,582 tons; of which 765 vessels, 173,222 tons, were to Britain; the rest chiefly to the Hanse Towns, Netherlands, Sweden, and Prussia.

Rybinsk lies in lat. 56° 37' N., long. 24° 6' E., on the Duna, about 7 miles from its embouchure. The port is spacious; the river is also wide; but, having a bar, vessels drawing more than 12 or 13 feet have to load and unload the whole or a part of their cargoes at Bolderaa, on its outside. Pop. 60,000. The navigation is generally closed from December to May. In 1838, the value of the exports was £2,078,000; the chief articles being flax, 29,350 tons, £832,900; hemp, 14,000

tons, £354,000; linseed, 202,650 quarters, £342,000; grain, chiefly rye, 245,000 quarters, £235,000; timber and deals, £152,500. The imports, consisting principally of tropical produce, manufactures, and wine, are in value only about one-third that of the exports. In 1838, the amount of shipping despatched was 1348 vessels, 180,968 tons; of which 468 vessels, 77,220 tons, went to Britain; the rest principally to Denmark, Netherlands, and Sweden.

The chief other Baltic ports are Narva, Revel, Pernau, Libau, and Windau.

PORTS OF THE WHITE SEA.

Archangel lies on the Dwina, 30 miles from its mouth, in lat. 64° 32' N., long. 40° 44' E. Pop. 25,000. It was the only Russian port accessible to foreigners down to the foundation of Petersburg; after which it lost much of its importance, though it is still a place of considerable trade, from its position on the Dwina, a river which, besides its own lengthened course, is connected by canals both with the Volga and the Neva. Its navigation is generally open from the latter part of May to the middle of October. Exports, chiefly rye, oats, timber, flax, hemp, iron, mats, linseed, potash, tallow, tar, pitch, train-oil, furs, canvass, coarse linen, cordage, and hair. Imports, tropical produce, salt, woollens, cottons, hardware, and herrings. The exports vary considerably in amount according to the demand for corn. In 1838, the shipping despatched amounted to 73,700 tons, including 55,260 tons to Britain; the rest chiefly to the Netherlands and Sweden.

Onega, at the mouth of the river of that name, carries on a similar trade.

PORTS ON THE CASPIAN.

Astracan lies on a small island in the Volga, 30 miles from its embouchure, in lat. 46° 21' N., long. 48° 5' E. Pop. 30,000. It is the centre of the extensive fisheries carried on in the Volga and Caspian. The fish taken are chiefly sturgeon, carp, and seal, particularly the first; and above 30,000 barrels of caviar, prepared from sturgeon roes, have been exported in a single year. Astracan is also the great entrepôt of the trade with Persia and the countries east of the Caspian,—transmitting (chiefly through Armenian merchants) leather, furs, iron, copper, and tallow, in exchange for silks, cottons, raw silk, drugs, and carpets.

Baku, farther S., is the only other Caspian port deserving of notice.

PORTS OF THE BLACK SEA AND SEA OF AZOF.

Odessa lies in Cherson, on the N. coast of the Black Sea, lat. 46° 28' N., long. 30° 43' E., in a fine bay, with sufficient depth almost to the shore for the largest vessels; it besides possesses a harbour, with accommodation for 200 ships. Pop. 63,000. Although now ranking next to Petersburg in importance, it has grown up almost wholly since 1794. From the year 1817 it has been a free port, receiving its imports, which consist chiefly of tropical produce, oil, wine, spirits, timber, cotton-twist and raw cotton, silks, woollens, and other manufactured goods, within a certain enclosed space, exempt from duty. Odessa, from its advantageous situation and privileges, is the great emporium of the produce of S. Russia destined for exportation. Its principal staple is wheat, of which about 1,000,000 chetwerts arrived on an average of the three years ending 1840; and the average prices of the best, free on board, in the same period, was 34s. 6d. per quarter; and it is rarely under 25s. or 28s. It is mostly brought from the Ukraine in carts, owing to the difficult navigation of the Dnieper and Dniester. In 1839, the exports consisted of—1,210,232 chetwerts of wheat; about 200,000 chetwerts rye, oats, &c.; 155,000 chetwerts linseed; 118,000 poods wool; and 223,192 poods tallow; the whole, with hides, iron, copper, wax, caviar, potash, beef, furs, cordage, sailcloth, butter, isinglass, and other articles, amounting in value to 48,636,350 paper rubles, or £2,180,000. The chief intercourse is with Leghorn, Genoa, Malta, Constantinople, Marseilles, and Britain. Its navigation is much less interrupted by ice than Taganrog. In 1838, the amount of shipping despatched (exclusive of about 660 coasters) was 781 vessels, 206,588 tons; and the amounts since have been still more considerable.

Taganrog lies in the N. E. part of the Sea of Azof, in lat. 47° 12' N., long. 38° 56' E. Pop. 17,000. Its roadstead is so shallow that even ships of moderate burden require to be lightened at Kertsch or Feodosia; and its navigation is generally stopped by ice from November to March. Still, its advantageous situation for intercourse between the provinces on the Don and the Donetz and foreign countries, and its vicinity to the Volga and the Caspian, render its trade very considerable. Exports, corn, principally wheat; with tallow, hides, cordage, linens, iron, and hardware from Tula, copper, wax, and caviar. The imports are trifling. The chief intercourse is with Turkey and Italy. Ships liable to quarantine being prohibited from entering the Sea of Azof, much of the foreign trade is conducted through the medium of coasting vessels. About 60,000 tons of shipping are despatched annually.

The other ports of S. Russia are Kertsch, Feodosia, and Eupatoria in the Crimea; Marioupol on the Sea of Azof; Ismail and Reni on the Danube; and Redut-Kale on the coast of Circassia.

MEASURES, MONEY, BANKS, FINANCES, &c.

MEASURES AND WEIGHTS.

The British or Imperial foot and inch are in use; also the Dutch or Rhineland foot, inch, and palm; the Russian foot = 13.75 Imp. inches; the Moscow foot = 13.17 Imp. inches; the archine, cloth measure, of 16 verchoks, = 28 Imp. inches, and 100 archines = 77.77 Imp. yards; the sagene or fathom is 3 archines, or 7 Imp. feet. The verst or mile of 500 sagues, or 1500 archines, = 3500 Imp. feet, = 5 Imp. furlongs, 12 poles, and 2 feet; and 104 verstes = 1 degree of the meridian nearly.

The deciatine, land measure, of 2400 square sagues = 2 Imp. acres, 2 roods, 32 perches.

The vedro, liquid measure, of 100 tcharkeys, = 2.70 Imp. gallons, and 100 vedros = 270.45 Imp. gallons; the anker contains 2 stekars or 3 vedros, and the oxhoft contains 6 ankera.

The tchetvert or chetwert, corn measure, of 2 osmines, 4 payaks, 8 tchetverika, 32 tchetvertkas, or 64 garnietz, = 5.77 Imp. bushels; and 100 chetwerts = 72.13 Imp. quarters, though at St Petersburg sometimes reckoned at 70½; the last is 16 chetwerts.

The pound of 32 loths, 96 zolotniks, or 6528 grains, = 6318½ troy grains, and 100 Russian lbs. = 90.26 lbs. avoirdupois; the pood of 40 Russian lbs. = 36 lbs., 1 oz., 11 drams avoirdupois, but commonly estimated at 36 lbs. only; and 10 poods = 1 berkovetz; the Nuremberg pound, used by apothecaries, = 5527 troy grains; the Dutch carat, used in weighing precious stones, = 3½ troy grains nearly.

Gold and silver are weighed with the Russian pound, as above; and their fineness is expressed in zolotniks and dolls; the pound or other weight

being divided into 96 zolotniks, and the zolotnik into 96 dolia.

The preceding are the official measures and weights of Russia, and they are in general use throughout the empire, except in the recently acquired possessions, and in a few places where old systems continue to be partially employed: Of the latter the chief are the following:—

Riga.—100 ells, each of 2 feet, = 59·95 Imp. yards; and 13 ells = 10 Russian archines nearly. The hoghead is 6 ankers, 30 viertels, or 180 stoofs; and 100 stoofs = 28·68 Imp. gallons. The last of oats is 60 loofs; the last of wheat, barley, and linseed is 48 loofs; the last of rye is 45 loofs; and 100 loofs = 23·45 Imp. quarters, or 33½ chetwerts nearly. The shippood is 20 lisponda, or 400 lbs.; and 100 lbs. of Riga = 92·16 lbs. avoirdupois; or 39 Riga lbs. = 1 Russian pood nearly. The mark = 3226 troy grains.

Poland.—The ell or lokci of 2 feet or 24 inches = 22·68 Imp. inches; and 100 ells = 63 Imp. yards. The mile, 20 to the degree, = 6076 Imp. yards. The morgen, or acre of 300 perches, = 1·384 Imp. acre; and 30 morgens = 1 wloka. The garniec, liquid measure, of 4 kwartas, or 16 kwaterkas, = 4 French litres, or 3½ Imp. quarts nearly; and 100 garniecs = 88 Imp. gallons: the hecska is 25 garniecs. The Warsaw korsec, corn measure, of 4 cwiercs, 32 garniecs, or 128 kwartas, = 3·52 Imp. bushels; and 100 korsecs = 44·02 Imp. quarters. The pound of 16 ounces, 32 loths, or 128 drachms, = 6259 troy grains; and 100 Polish lbs. = 89·41 lbs. avoirdupois; the stone is 32, and the centner 160 Polish lbs. Bullion is weighed by the Warsaw mark, = 3113 troy grains; but coins by the Cologne mark.

MONEY.

The integer of account is the silver ruble, which is divided into 100 copecs, and equal in value to 3s. 1½d. sterling; or Ru. 6, cop. 40, = £1. Formerly accounts were kept in paper or bank rubles similarly divided; but this practice was abolished by an Imperial ukase in 1839, which established the silver ruble as the only legal measure of value throughout the empire. This ukase fixed the exchange of paper into specie at the rate of 350 copecs in paper for 100 copecs in silver; making the paper ruble worth 10½d. sterling nearly.

The coins are,—In gold; imperials of 10 rubles, half-imperials of 5 rubles, double ducats, and ducats; the only gold coin minted at present is the half-imperial, weight 97½ troy grains, fineness 88 zolotniks, or ⅔ths, and value 16s. 1½d. sterling; In platina; pieces of 12, 6, and 3 rubles; In silver; rubles, poltins or ½ rubles, polpoltins or ¼ rubles, double-grive of 20 copecs, single-grive of 10 copecs, and pieces of 15 and 5 copecs; these are minted at the rate of 22½ rubles of the fineness of 83½ zolotniks, from the Russian pound of fine silver: In copper; pieces of 2, 1, and ½ copecs.

The gold coins are directed, by the ukase of 1839, to be received and paid in all government-offices, with an agio of 3 per cent. Thus, the half-imperial of 5 rubles is reckoned at 5 rubles 15 copecs in silver.

Days of grace, 10 for bills after date, and 3 for bills after sight. The Julian Kalendar, or *Old Style*, is still used throughout the empire.

Poland.—Accounts are stated in florins (*zlots*) of 30 gros, each of 10 fen. The polish florin, being valued at the rate of 84 to the Cologne

mark of fine silver, is equal 5½d., but is commonly estimated at 6d. sterling.

BANKS.

The Imperial Assignment Bank, opened in St Petersburg and Moscow, 1770, and converted into a government establishment, 1788, has branches in all the principal towns, and circulates the national paper-money, sometimes called bank assignats, the amount of which outstanding, January 1, 1839, was 595,776,310 rubles = £28,370,300. The notes for 100, 50, and 25 rubles are on white paper; those for 10 rubles on pink paper; and those for 5 rubles on blue paper. The proportional value of this paper money to silver is fixed at 3½ to 1, as already noticed.

According to official accounts, the capital of this bank, January 1, 1839, was £1,386,463; the amount of their deposits, belonging to private parties, £6,488,938, and to government offices, £15,777,421, including £10,350,620 to the Commercial Bank; and the amount of loans, £23,272,828, due partly to private parties, but chiefly to government offices.

The Imperial Commercial Bank, founded at St Petersburg in 1818, partly under mercantile direction, has a capital of 30,000,000 paper rubles = £1,428,571. It receives deposits of coin and bullion, and has a department for transferring credits on the principle of the Bank of Hamburg. It is also a bank of discount, and makes advances upon merchandise of home production. Its property is protected against taxation, sequestration, or attachment; and subjects of countries with which Russia may be at war are entitled at all times to receive back their deposits. The bank has branches in all the principal commercial towns; and in 1838, the gross amount of its operations was £60,240,917.

There are likewise two Loan Banks;—one established for the nobility, and another, a Lombard, for advancing money on pawn and otherwise,—the profits of which belong to the Foundling Hospital of St Petersburg.

FINANCES.

The Revenue accounts are not published, but its annual amount is estimated at about 300,000,000 paper rubles, or £17,000,000; of which 40,000,000 rubles are derived from a capitation tax of 4 rubles a-head on all male boors belonging to individuals, and on some descriptions of freemen; 90,000,000 from the obrok or rent, paid by all male boors on the crown estates; 92,000,000 from customs duties; 100,000,000 from spirit duties; salt monopoly, 10,000,000; crown mines, 16,000,000; tax of 1½ per cent. on the declared capital of merchants, 8,000,000; seignorage on coin, 8,000,000; stamps, licenses, and similar imposts, 7,000,000; and miscellaneous items, 9,000,000 rubles. The taxes are partly farmed. Of the expenditure very little is known.

The National Debt amounted, January 1, 1839, exclusive of the bank assignats in circulation, to 935,146,592 rubles = £44,530,790; consisting partly of terminable, and partly of interminable debts, at 5 and 6 per cent. Of the latter, there were redeemed, up to 1839, by the Commissioners for the Discharge of Debts, £6,442,964. A considerable portion of the debt was contracted in Amsterdam and London; the agents in the former place being Hope and Company, and in the latter, Messrs Rothschild and Baring Brothers. Transactions in the foreign debt are generally effected at the fixed exchange of 3s. 1d. per silver ruble.

RUSSIA LEATHER (Ger. *Juften*. Rus. *Juft*, *Youft*), the tanned hides of oxen, manufactured in a manner peculiar to that country. It is soft, has a prominent grain, considerable lustre, and peculiar odour. In colour it is generally red or black; the former is much esteemed for binding books, and making articles where

a fine durable leather is required ; the latter is chiefly in demand in Russia for shoe and boot making. Both kinds, when genuine, throw out a peculiar odour, occasioned it is said by their being tanned with larch bark, mixed with spirits of tar.

RYE (Dan. *Rug*. Du. *Rog*. Fr. *Seigle*. Ger. *Roggen*. Rus. *Rosch*, *Sel*, *Jar*), a species of grain (*Secale cereale*) resembling wheat. It is the bread-corn of Germany and Russia ; but in this country it is comparatively little cultivated, though in 1765 it is supposed to have been consumed in England by about one-seventh part of the population. It is now raised chiefly in Northumberland and Durham ; though in the latter it is rarely grown alone, but mixed with wheat, in which form it is called *maslin*. In Scotland it is sown in various places, particularly on poor moorish soils in elevated districts, for which it is well adapted. In Orkney and Argyllshire it is used exclusively for the manufacture of straw plait.

S.

SABLE (Fr. *Zibeline*. Ger. *Zobel*. Rus. *Sobal*), a species of weasel (*Mustela sibirica*), celebrated for the fine quality and rich colour of its fur, the hairs of which turn with equal ease in every direction. This animal is a native of Northern Europe and Siberia. In Samoieda, Yakutsk, Kamtschatka, and Russian Lapland, it is found of the richest quality and darkest colour. [FURS.]

SADDLES and Harness are made in all the towns of the United Kingdom, but the chief seat of the manufacture is London. A progressive increase has of late years taken place in the foreign demand for these articles ; and the declared value of the annual exports is now nearly £100,000. They are sent chiefly to the West and East Indies, and in smaller parcels to Australia, Cape of Good Hope, Spain, Brazil, and other countries.

SAFFLOWER (Fr. *Carthame*. Ger. *Safflor*. It. *Zaffrone*), the flowers of an annual plant (*Carthamus tinctorius*) growing in Egypt and the warmer parts of Asia, Europe, and America. They are of an orange-red colour, and are brought to this country in a dried state, for the sake of a dye which is extracted from them. About 5000 cwts. are annually imported, which, with the exception of from 300 to 500 cwts. from the United States, are brought almost wholly from the East Indies. About half this quantity is entered for home consumption. Safflower is chiefly used for dyeing silk ; producing different tints of red and orange according to the alteratives employed in combination. It also forms the basis of rouge. The dye is sometimes made into cakes, termed *stripped safflower*.

SAFFRON (Fr. *Safran*. Ger. *Saffran*. It. *Zafferano*. Sp. *Azafran*) consists of the summits of the pistils of the (*Crocus sativus*, a bulbous plant, found in various parts of the S. of Europe and Asia, and cultivated near Saffron Walden in Essex. The pistils are generally dried and compressed into firm cakes, but the finest, called *hay saffron*, consists of the pistils merely dried. Cake saffron should be chosen fresh, neither dry nor very moist, close, of a fiery orange red colour, and an acrid diffusivo odour. It should be preserved in a bladder within a tin box. The English saffron is superior to any that is imported. It is used as a colouring substance, and to a small extent in medicine. Meadow saffron is a bulbous plant (*Colchicum autumnale*) of a different kind, the roots and seeds of which are also employed medicinally.

SAGAPENUM, a gum resin, supposed to be a kind of assafoetida (*Ferula Persica*). It is sometimes agglutinated in masses of various sizes, but ought to consist chiefly of whitish shining grains, tenacious, and, when softened by heat, very viscid, having a smell resembling gum ammoniac, and a taste like assafoetida. It is inflammable, but less soluble in alcohol than in water. Sagapenum is used in medicine, holding a kind of middle place between assafoetida and galbanum. It is imported from Alexandria.

SAGO, a farinaceous alimentary substance, obtained from the pith of several species of palm, found in the Eastern Islands and S. E. of Asia. The quantity yielded by one tree is very considerable, sometimes 500 or 600 lbs. The pith is excavated, separated from the filaments in water, and reduced to a pulp, which is baked into cakes, and in this state forms a principal article of food in the Eastern Islands. That which is imported, however, occurs in the form of grains, from having been passed through a coarse sieve, when half dry, upon hot plates of iron. Of this granulated kind there are two varieties—pearl sago, in small, hard, semi-transparent grains, about the size of a pin's head ; and the common or brown sago, in larger grains, about the size of pot barley. Both are inodorous, with an insipid taste. In many of its properties sago resembles starch. It is chiefly used as a light nutritive diet for children and invalids.

The best sago is the produce of Siak in Sumatra ; that of Borneo is next ; and the produce of the Moluccas, though greatest in quantity, is lowest in estimation. The great emporium of the trade is Singapore. The annual consumption of this country—in 1829 only 1400 cwts.—is now upwards of 55,000 cwts., arising mainly from the reduction of the duty from 74s. 8d. to 1s. per cwt.

SAILCLOTH OR CANVASS (Du. *Zeildoek*. Fr. *Toile à voile*. Ger. *Segeltuch*. It. *Canerazza*, *Lona*. Rus. *Parussina*. Por. & Sp. *Lona*), a coarse strong fabric, woven of hemp or flax. It is made in *bolts*, each of 28 ells or 35 yards ; and the qualities are numbered from No. 1, the strongest, used for storm sails, to No. 8, employed for the smallest ones, such as small studding sails, &c. Dundee is the chief seat of this manufacture in Britain.

ST HELENA, a small island of the S. Atlantic Ocean, subject to Britain.

This important island, which is only about 10½ miles in length by 6½ in breadth, derives its interest solely from having been the scene of Napoleon's imprisonment and death (1815-1821). The shores are rocky, and the interior is a lofty plateau, with a climate mild but unhealthy. At present it is chiefly used as a place of refreshment for ships proceeding northward ; and its commerce consists in the importation of ship-stores, not exceeding £50,000 a-year. The only town and port is Jamestown, in lat. 15° 15' S., long. 5° 46' W., about 57½ leagues N. W. from the Cape of Good Hope.

SAL AMMONIAC. [AMMONIA.]

SALE is a contract by which the proprietor of some valuable commodity engages to transfer his property therein to another person, in consideration of a sum of money, called the price. The person who sells is called the vendor or seller, he who buys the vendee or purchaser. The essentials of the contract are—that there be a subject, that there be a price ascertained or ascertainable through some means agreed on, and that the parties be capable of contracting. The parties must be as one as to the subject : for where A intends to sell malt, and B thinks he is purchasing corn, whatever claims may lie between the parties, there is no sale. If the agreement be founded on a fraud, it is void. The most ordinary description of fraud is deception or misrepresentation as to the state of the property. If the purchaser is *aware*, however, that a statement is a misrepresentation, it would appear that he is bound to the bargain : for the fraud, though intended, has not been his inducement to purchase. Stipulations that sales shall not be void through misstatements, and that the property must be taken with all faults, seem only to cover ordinary defects, but not to protect the purchase in the case of deliberate fraud. Where goods are sold by sample, they must correspond in quality. Concealment may be a fraud, as well as misstatement ; as, where a picture is sold among others which have belonged to an eminent connoisseur, the purchaser being led into the mistake that it belonged to his collection. It is a fraud to take advantage of imbecility or inebriety. " It seems to have been formerly held, even in equity, that a party entering into a contract when in a state of intoxication, was not entitled to relief, unless some fraud or contrivance had been practised by the other party ; but probably the contract would now be held void if the defendant could show that he was so drunk at the time that he did not know what he was doing, although the drunkenness was entirely his own act." (*Morton*, 135). There may be fraud on the side of the purchaser, which will vitiate the sale ; but his side of the contract does not admit of so many varieties of deception ; and it is very seldom that his act can be shown to have affected the foundation of the contract. If a man purchase goods, and, having money sufficient to pay for them, spends the money otherwise, in the full knowledge that he has no other resource from which they can be paid, it is undoubtedly a fraud ; but the contract is completed before it is done. There may, however, be circumstances showing a direct fraudulent design at the time of the purchase ; as, where payment is given in a fictitious bill or in a draft on a banker with whom the purchaser has no funds. In such a case, money or its equivalent being the consideration on which the vendor agrees to sell, and worthless paper being substituted, the contract is void ; and if the goods have changed owners, they may be reclaimed. When a fraud is discovered, if the party wishes to be rid of the bargain, he ought to take immediate steps for recovering what he has parted with ; if he endeavour in the mean time to get the bargain otherwise performed, he will probably involve himself in a new contract. Thus, in the case of a fictitious draft, if the seller, instead of re-demanding the goods, were to endeavour to get payment for them, he would be held merely as placing the contract on a different footing. A sale procured by force is vitiated. Sales involving a fraud against third parties, for immoral purposes, and contrary to public policy, are void. [CONTRACT.]

There are certain requisites of the article sold, generally termed *Implied warranties*, in opposition to *Express warranties*, which are explained below. There

can be no implied warranty, however, as to the general qualities of the article. Of these it is the purchaser's duty to satisfy himself. In ordinary language, "his eye is his merchant;" and implied warranties resolve themselves into two conditions,—1st, That the subject is the vendor's own and at his free disposal; and, 2d, That it is what he sells it for. A thing stolen or found is not at the lawful disposal of the thief or finder, or of any person deriving right through them; but in England there is an exception in favour of a fair purchaser in *market overt* or in open market. In the city of London, every day except Sunday is a market day; and every shop or place in which goods are exposed for sale is the market, in as far as respects the kind of goods there sold. A wharf in London is not a market overt. In Bristol, and wherever a special custom to that effect is established, shops are market overt for their particular commodities; but in the country, generally, market overt is only held on particular days, and in a particular spot. A sale in a back room or warehouse, or in a room shuttered up, or during the night-time, will not give the protection of market overt; and if the purchaser is aware of the bad title, the sale is vitiated, wherever it takes place. The doctrine of market overt does not extend to Scotland. There "the possessor of goods which have been stolen by him, could not make a valid sale of them in any circumstances, because by our law no such privilege is attached to sales in open market as in England; and the seller never having had a title to the property of the goods sold in himself, could not give such a title to a purchaser" (*Brown on Sale*, 29). As to the other implied warranty, that the subject is what it is sold for, it is now no longer law that the amount of the price infers a warranty that the goods shall be of a certain quality. Where it is consistent with commercial practice to specify any particular kind of defect, omission to state it is held a warranty of soundness. Where the article is supplied for a particular purpose, there is an implied warranty that it is of the kind applicable to that purpose; so, when ale is purchased for the West India market, it must be suited to stand the climate; and if a horse is purchased for riding, a draught horse, however valuable, will not be a fitting substitute. Where a bargain is annulled on such a ground, however, it must be distinctly known that the special purpose was understood between the parties, and that the buyer was ignorant that what he has purchased is unsuitable. Where a warranty is express, the sale is vitiated if it prove false, whether the purchaser is aware of its falsehood or not.

Form.—The essentials of sale are—that the parties consent to the bargain; and, in the general case, evidence of that consent completes the transaction. In some cases, however, the law has required certain formalities, without which no sale takes place. Real property cannot be sold in any part of the kingdom without the intervention of writing. The Registration Act provides specifically a form, which cannot be departed from, in the vendition of ships, which will be found fully set forth in the abridgment of that act. In other respects, the contract of sale is in Scotland open to verbal evidence of consent: in England, however, it is regulated by the Statute of Frauds, 29 Ch. II. c. 3, as follows:—By § 17, "no contract for the sale of any goods, wares, and merchandises, for the price of £10 or upwards, shall be good, except the buyer shall accept part of the goods so sold, and actually receive the same, or give something in earnest to bind the bargain, or in part of payment; or that some note or memorandum in writing of the said bargain be made and signed by the parties to be charged by such contract, or their agents, thereunto lawfully authorized." By 9 Geo. IV. c. 14, § 7, this section is extended to sales, "notwithstanding the goods may be intended to be delivered at some future time, or may not, at the time of such contract, be actually made, procured, or provided, or fit or ready for delivery, or some act may be requisite for the making or completing thereof, or rendering the same fit for delivery." Sales by auction are ruled by the statute. [AUCTION.] "It is said that a sale of stock is within the statute, though this has been doubted, because there can be no actual delivery" (*Morton*, 53). It would appear that sales of shares in public companies are not within the statute. The delivery must be accompanied by acceptance on the part of the purchaser; so, where one ordered several articles in a shop, some of which he marked with a pencil, while others were measured in his presence, and in pursuance of his directions the whole were sent to his house, but he refused to receive them, it was no sale (*Astey v. Emery*, 4 M. & S., 262). Where two distinct kinds of goods are purchased, delivery and acceptance of part of one kind will not affect the whole. Constructive delivery may take place as to bulky articles, *e. g.* by delivery of the key of the warehouse, or by marking the purchaser's name on the goods. It is not sufficient delivery, however, that goods are measured or even set apart. Delivery to an agent of

the purchaser, such as a carrier, if with the purchaser's knowledge and assent, is sufficient. Earnest is another alternative. It must consist of the giving away of something valuable, and not of a mere sign or ceremony, such as crossing the hand with a shilling. Another criterion by the act, is a written note or memorandum of the bargain, signed by the parties or their agents. Much latitude is allowed in interpreting this provision. The meaning of a variety of documents may be taken conjointly to prove a sale; but parole evidence will not be admitted to control such meaning, though it may be employed to identify the handwriting. The price ought to appear in the writing, if it has been in the view of the parties. It is not necessary that the signatures should be the formal autographs at the end of the document which generally receive that designation. "I, A. B. agree to sell," or "Mr. A. B. has agreed," &c., is a sufficient signature by A. B. The names of both parties must appear on the writing; but the signature requires to be only by the party charged. An agent signing need not be authorized in writing. [PRINCIPAL AND AGENT.] An auctioneer is an agent in the meaning of the statute. [AUCTION.]

Delivery.—According to Blackstone, "as soon as the bargain is struck, the property of the goods is transferred to the vendee" (ii. 143). The seller is after that their mere custodian; and if they perish their loss falls on their new proprietor, viz. the purchaser. In Scotland a different doctrine is followed, in pursuance of the civil law. There "the property of the thing sold is *not transferred* from the vendor to the vendee by the mere operation of the contract. . . . *Delivery* is necessary to change the property" (*Brown*, 3). The distinction, however, is little more than nominal. In England, the seller retains a lien on the thing sold for the price, and thus obtains the remedy which he has in Scotland by continuing to be the proprietor; and in both countries, goods continuing in possession of the vendor after he becomes bankrupt, accrue to the benefit of his creditors. The removal of the goods, at however short a period before bankruptcy, will be sufficient to take them out of the bankrupt estate. Symbolical delivery will be sufficient in the case of bulky articles, but it must be of a more distinct nature than the sort of delivery required by the Statute of Frauds to complete the contract. Transfer of the name in the books of a wharfinger, the assignment of a bill of lading, or of any sort of transfer-ticket, is delivery. It would appear that a marking of the purchaser's initials will not transfer the goods in the seller's warehouse; but that such an act of appropriation as bottling wine in the premises of the seller, and sealing the bottles with his (the buyer's) seal, will be sufficient. Possession by an agent is possession by his principal. The seller may specifically appropriate the goods to the purchaser, by giving directions to transmit them, and may thus take them out of his bankrupt estate. When the goods are in the hands of the purchaser or his agent, they become part of his estate, and go to the creditors on his bankruptcy. Goods sent on sale and return are part of the estate of the bankrupt consignee, unless they have been left unpacked, and without any right of ownership being exercised over them.

Price, &c.—It is the duty of the seller to perform his share of the contract, by delivering the property, or giving the purchaser all facility in taking possession; and if he refuse, the purchaser may in England bring assumpsit for non-delivery. In doing so he must prove that he has performed all the conditions incumbent on him; and especially that he has paid, or tendered payment of the price, unless the sale be on credit. In this latter case the vendor has no lien, and cannot refuse delivery, except in the circumstance of the goods being left in his possession until the period of credit expires. It is the duty of the purchaser first to take delivery of the goods, and then to pay for them. The vendor, if he have performed his own share in the contract, may sue him, for goods bargained and sold, if the property be delivered, in which form he will recover his entire price, or specially upon the contract, in which case he will recover the amount of damages which he has actually sustained. In Scotland, there is no such distinction in the form and effects of the action, which is, in all cases, an ordinary suit for performance of the contract, or for damages, the result being moulded to the circumstances. If credit is stipulated for, an action for goods sold cannot be brought until the period of it has expired, even though the vendee should have left unperformed some special condition stipulated for in the mean time (as, that he shall give a particular bill) or though he have given unequivocal tokens of a fraudulent intention not to pay; the remedy in such case is an action of trover for recovery of the goods, on the nullity of the contract, as above. If the purchaser show that he has taken the proper means to effect payment, it will be on the vendor to show that he has not been paid, by proving that the money intrusted to a carrier did not come to hand, or that a bill sent in

payment was dishonoured. If the vendor have taken a bill, he gives credit, and cannot recover on the original transaction, until the bill is dishonoured, unless it be fictitious, or be otherwise unavailable, as, for want of a stamp. If the bill be lost, the seller can sue on the original contract, securing the vendee against having to pay the amount to a third party. If the seller have given directions for transmitting the money in a particular manner, the buyer, by complying with the directions, and using all due caution, relieves himself of responsibility,—any loss which may occur falling on the seller ; as, where it was agreed that the purchase-money should be transferred in the books of the mutual banker of the parties, who thereafter failed (*Eyles v. Ellis*, 4 *Bingh.* 112). Payment to the proper agent of the seller will release the buyer. When no price is named, the market price, or, as it would seem, the lowest price at which such goods are sold, will be the criterion : if the vendee take means to suppress information on this point, the presumption will be in favour of a high price. [FACTOR. PRINCIPAL AND AGENT.]

(*Morton on Vendors and Purchasers. Smith's Mercantile L.*, 393-431. *Brown on Sale.*)

SALEP, an alimentary powder obtained from the dried roots of the Orchis plant (*Orchis mascula*). It is a common article of diet in Turkey and Persia.

SALMA, a measure of capacity in Malta, Naples, and Sicily.

SALMON, a fish (*Salmo salar*) common in the rivers of Britain, Ireland, and other northern countries. When young it is called "smolt ;" "salmon peal" when a little older but under 2 lbs. weight ; and "grilse" when still larger. When full grown it weighs generally from 6 to 12 lbs. ; but it has been caught so large as 13 lbs. Salmon pass the summer in the sea, or near the mouths of the estuaries ; in autumn they instinctively ascend the rivers, and deposit their spawn in the upper and shallow pools about the end of the season. After spawning they are unfit for food. They descend the rivers with the floods at the end of winter or beginning of spring, and ultimately gain the sea, where they quickly recover their condition. The first attack made upon them is in the summer months, when they rove close along the coast in quest of the rivers in which they annually cast their spawn. They are then, as well as in the estuaries, caught chiefly by stake-nets ; whereas in the rivers they are taken by coble-nets and other devices. The season of the migration of the salmon varies, depending, as some allege, on the warmth of the waters. The northern rivers are, with little exception, the earliest ; the number caught in the spring is small compared with that taken as the summer advances.

The progress of population and manufactures has rendered the salmon scarce in England ; but the fisheries in the Tay, Tweed, Don, Dee, and other rivers in Scotland, though less extensive than formerly, still send an annual supply of between 2,000,000 and 3,000,000 lbs. to London ; and they continue plentiful in the Erne, Moy, Bann, Blackwater, Shannon, and nearly all the principal streams along the N. and W. coasts of Ireland. The fish are carried to town in a fresh state, packed in ice, from Scotland and Ireland ; and the quantity pickled at the fishing stations is now exceedingly small. They are consigned to commission agents, who charge five per cent., and run the risk of all bad debts. The average wholesale price for the season in the metropolis is about 10d. per lb.

The salmon fishings are private property, and many of them are of great value. Much discussion has frequently arisen regarding the duration of the close time and the modes of fishing in different parts of the rivers. In Scotland the prohibited period extends on the Tweed from October 15 to February 15 ; and north of the Tweed, from September 14 to February 1. Heavy penalties are imposed on the taking of spawn, fry, or unclean fish (24 Geo. II. c. 23 ; 9 Geo. IV. c. 39).

SAL PRUNELLA. [NITRATE OF POTASH.]

SALT (Du. *Zout*. Fr. *Sel*. Ger. *Salz*. It. *Sale*. Por. & Sp. *Sal*. Rus. *Sol*), the muriate of soda or chloride of sodium of chemists, is a well-known substance, of the highest utility. It crystallizes in cubes. When pure it is not deliquescent. One part is soluble in 23ths of cold water, and in little less of hot, so that it cannot be crystallized but by evaporation. Specific gravity, 2.125. Salt abounds in various parts of the globe. The waters of the ocean every where contain it, though in different proportions. In England and elsewhere it is found in large masses, or in rocks under the earth. In other instances brine springs afford the means of a ready supply ; and throughout a considerable part of the sandy districts of Africa and Asia, the soil itself abounds with it. Sea-salt is obtained in three ways ; 1st, in countries having a long and hot summer, and a soil neither muddy nor porous, it is formed by solar evaporation from sea-water collected into pools. In this

manner it is prepared in Spain, Portugal (particularly at St Ubes), France, and various places on the Mediterranean; in India, Ceylon, Siam, Tonquin, and China; and from all these parts, except the last, large quantities are exported. 2d, In some countries, having a similar climate and soil, it is formed by solar evaporation in natural pools which spring-tides have previously filled with sea-water. This kind, chemically purer than that first described, is produced and exported in great quantities from the Cape de Verde Islands; from Turk's Island, and St Martin's in the West Indies; and from Kangaroo Island on the S. coast of Australia. In these places it is raked or scraped into a heap, and is at once fit for exportation. These two kinds of salt are known under the name of *bay-salt*. 3d, Salt is manufactured by artificial heat from sea-water; but the process is expensive, and the result chemically impure. In this manner considerable quantities were formerly manufactured at Lymington in Hampshire, and various other places in this country; but, since the abolition of the duties, these works have been either abandoned or greatly reduced.

In a commercial point of view, perhaps the most important source of supply consists of rock-salt and brine-springs. In England, the brine-springs and beds of rock-salt are of such extent as to be alone sufficient to supply the whole world for an indefinite period. They are situated chiefly at Northwich and other places contiguous to the river Weaver in Cheshire, and at Droitwich in Worcestershire. In these places the brine-springs, from which by far the largest supply of salt is obtained, have been worked from a very remote era; but the discovery and working of the fossil salt are comparatively of modern date. The produce of both kinds, however, has been of late years much increased; and the English salt-trade is now an object of great national importance. Besides the immense home consumption, upwards of 12,000,000 bushels, exceeding in value £200,000, are annually exported, chiefly to the United States, Canada, Russia, Prussia, Germany, Holland, Denmark, Belgium, and the western coast of Africa. Salt is of most extensive use as a preservative of food and as a condiment; as a source of soda, muriatic acid, and chlorine; and for various agricultural and horticultural purposes. Its comparative value is determined by its purity and its fitness for use. That kind which possesses most eminently the combined properties of hardness, compactness, and perfection of crystals, will be best adapted to the purpose of preserving provisions, because it will remain permanently between the different layers, or will be very gradually dissolved by the fluids that exude from the several substances; thus furnishing a slow but constant supply of saturated brine. On the other hand, for the purpose of preparing the pickle or of *striking* the meat, the smaller-grained varieties answer equally well, or, on account of their greater solubility, even better, provided they be equally pure. The tax on salt in Britain was formerly so high as 15s. per bushel; but in 1823 it was reduced from that rate to 2s.; and in 1825 it was wholly repealed. The retail price of the mineral has in consequence been reduced from 4½d. to ¾d. per lb.

SALTPETRE. [NITRATE OF POTASH.]

SALVAGE, in the law of shipping, is a remuneration to those who, by gratuitous exertion or risk, save a ship or cargo, or any portion of them, from destruction by the elements, or from loss by capture. It is not due to those who are bound by law and contract to exert themselves on the occasion; and thus the master and crew can have no salvage for services in protecting their own vessel. When a vessel is captured, salvage is due on her recapture. Salvage is due, moreover, in cases where accident rather than exertion or risk has enabled the party to preserve the property; as, where portions of ship's apparel, anchors, or merchandise, are picked up at sea. Passengers are not in the general case entitled to any reward for assistance in saving the vessel, in the safety of which their own lives, or at least their comfort and convenience, are embarked; but the passenger is not bound like the mariner to stick to the vessel; and if he remain when he could depart, and perform gratuitous and perilous services, he is entitled to a consideration. "If the preservation of life can be connected with the preservation of property, whether by accident or not, the Court of Admiralty can take notice of it, but has no power of remunerating the mere preservation of life, which must be left to private bounty" (*Abbot*, 508). There is no rule for estimating the amount of salvage in all cases; nor, from the nature of the claim, does any fixed rule seem capable of being applied. Where the amount is disputed, the jury, or (as in the cases mentioned below) the justices, must consider the whole circumstances, and award accordingly. The master and crew of the vessel—the individuals, in short, who have exerted themselves or incurred personal risk—are those who are primarily entitled to the salvage allowance; but where their ship has been put in peril, or

erred from wear and tear, the owners are entitled to a proportional compensation. Where third parties interfere to assist in a salvage, there must be a case of necessity for their aid, to justify their claim for a share of the salvage; but it is a rule that, in case of preservation from an enemy, a vessel of war, right, shares in the salvage. The property actually benefited is charged with expense; and so freight is chargeable, if it was earned, and has been preserved by the act of the salvors.

When property wrecked or abandoned at sea is found and taken possession of, the finder has a lien on it till a reasonable salvage be tendered to him. Where, however, the parties whose right and duty it is to protect the property are present, they are not entitled to take possession of it, or to interfere, except as assistants. By an old statute (12 Anne, stat. 2, c. 18), sheriffs, justices, mayors, heads of corporations, constables, head-boroughs, and tithing-men, are bound to give assistance at the call of the commander of a ship in distress on the coast, and to demand assistance from the people in the neighbourhood or from the vessel at anchor. By the same act, the salvors in such a case must be paid a reasonable reward within 30 days,—the property saved remaining for security in the hands of the custom-house officers. If the parties disagree, they may name three justices as arbiters. By 26 Geo. II. c. 19, § 5, a similar remedy was given for vessels voluntarily giving their services without being commanded by official authority.* In England, the jurisdiction in salvage cases, other than as above, is in the Court of Admiralty, where the service is performed at sea or between high and low water mark (1 & 2 Geo. IV. c. 75, § 31). In Scotland, it is in the Court of Session. An act applying solely to England (1 & 2 Geo. IV. c. 75) regulates the disposal of wrecked or abandoned property found at sea by pilots and others; and provides for the arrangement stated above of the arbitration of three justices to settle the salvage in such case, and to all disputes respecting remuneration for service in the preservation of property or life on the coast. There is an appeal to the Court of Admiralty. There is a special statute, making similar provisions for the Ports (1 & 2 Geo. IV. c. 76). There are directions for the sale of goods to the value of salvage in the Customs Regulations Act. [Customs, § 49.] (*Abbot's Dictionary*, 493-530; *Statutes quoted*.)

SAMPLE, a small specimen of any kind of merchandise.

SANDAL-WOOD, an aromatic wood, much used in India and China for cabinet-work, toys, and perfumes, also in medicine. It is obtained from a small tree (*Santalum album*), resembling the myrtle, found in Malabar, in Timor, and in the Sandwich and Fijee Islands; the produce of the first is that in most esteem. The white sandal is the exterior part of the tree; and yellow sandal the interior. The white has most hardness and fragrance, should be selected in large pieces: the reddest nearest the root, called root sandal, is of superior quality. This commodity improves by keeping.

SANDARAC, a resinous substance procured from a large tree (*Callitris quadrangula*) found in Temme in Morocco, where it is called *arar*. It occurs in yellowish-white tears, or in small masses; and is used as an ingredient in varnishes and ointments, and, when reduced to a powder, forms the article called *pounce*.

SANDWICH OR HAWAII ISLANDS, a group situate in the Pacific, betwixt 19° 54' and 22° 15' N., and long. 199° 36' and 205° 6' E. They were discovered by James Cook in 1778; and consist of 11 islands, of which 7 are inhabited. Population, 108,000. Government, an hereditary despotism.

The islands are of volcanic origin, and in respect of climate differ little from the W. Indies, though they are more temperate. The soil is generally fertile; and the natives mild, honest, and enterprising, having been reclaimed from the barbarous habits which formerly prevailed. The islands are favourably situated for trade, being in the route between America and Europe, and they have of late become an entrepôt for the commerce of the N. W. coast of America, as well as a place of refreshment for the whalers in the Pacific. The chief port is Honolulu, on Oahu, where consuls from Britain and the United States reside. It affords facilities for the repairing of ships. Imports—manufactured goods, sheathing copper, ship-stores and provisions, tea, sugar, skins, hides, lumber, furs, pearl-shell, turtle-shell, arrow-root, and cocoa.

Exports—salt and sandal-wood, besides provisions and other supplies to whale-ships, and merchandise re-shipped to California, the Russian settlements, Mexico, the South Sea Islands, Europe, and the United States. In 1835, the value of imports was £95,250; of exports, £10,000. The goods imported were brought by 34 vessels, the tonnage being 5623; besides which, 12 vessels visited the port. A commercial treaty was concluded between Lord E. Russell, then Secretary of State, and King Tamehameha III.

* There is a question whether this is repealed by 6 Geo. IV. c. 105, § 100. There is a like provision in the 37th sect. of the 1 & 2 Geo. IV. c. 75, applicable only to England.

SAPAN-WOOD, a dye-wood similar to Brazil-wood, but containing much less colouring matter. It is the product of a thorny tree (*Casalpinia sapan*), indigenous to S. India, Siam, Pegu, and the Eastern Islands; from whence about 16,000 bazar maunds were in the year 1838 imported into Calcutta, about one-fourth of which was re-exported to England.

SAPPHIRE, a beautiful precious stone, and, after the diamond, the most valuable of gems. It occurs crystallized in six-sided prisms, variously terminated, and in rolled masses, which are colourless, or of a blue-yellow or yellowish-green tinge, and transparent or translucent. The most highly prized varieties are the crimson and carmine-red. The stones called oriental ruby, oriental topaz, oriental amethyst, and oriental emerald, are red, yellow, violet, and green sapphires, distinguishable from the other gems of the same name, without the prefix *oriental*, by their superior hardness and greater specific gravity. It is found in Pegu, France, and Germany; but the finest are brought from Ceylon. The *sapphire d'eau* of jewellers is a transparent iolite from Ceylon.

SARCOCOLLA, a gum resin produced in N. Africa, Persia, and Arabia, by a shrub, the *Penæa sarcocolla*. It occurs in small whitish-yellow grains, of a bitter taste, and is celebrated for conglutinating wounds.

SARDINES, a species of anchovy (*Engraulus meletta*, Cuv.) common in the Mediterranean. It tapers very much towards the tail, and is of a dark brown colour. Sardines are frequently mixed with anchovies, but they are much inferior.

SARDINIA, KINGDOM OF, comprises the N. W. part of Italy, bounded N. by Switzerland, E. by Lombardy and Parma, S. by Gulf of Genoa, and W. by France; also the island of Sardinia in the Mediterranean. Area, 29,102 sq. miles. Population in 1838, 4,650,368. Capital, Turin, an inland city; pop. 114,000. Government, an hereditary monarchy, nearly absolute.

Of the continental part, the most extensive and fertile is Piedmont, consisting of the upper basin of the Po, from which, and its affluents, the country, though naturally parched by heat, is so extensively and skilfully irrigated, that it yields a surplus of corn, cattle, French beans, and hemp: its chief other products are wine, fruit, and, above all, silk of the finest quality. Savoy, separated from the preceding by the Alps, is a poor hilly country. And the narrow maritime districts of Genoa and Nice, divided from Piedmont by the Apennines, are also hilly and rocky; but have a south aspect highly favourable for the olive. The mineral wealth of these territories has been little explored. Iron, lead, copper, and other metals are said to abound; and marble and alabaster are both plentiful and largely exported. There are some iron-works; but the principal manufactures are those of silk, velvets, and hosiery, mostly consumed in Italy, coarse woollens and linens, canvass, cables, paper, glass, and works of art.

The island of Sardinia, though exceeded by few regions in natural fertility, is at present the least valuable portion of the kingdom; both the country and the population being, from a variety of causes, still in a semi-barbarous state. There is, however, a surplus of corn for exportation; in good years, according to Mr Macgregor's Report on Sicily (p. 71), to the amount of 300,000 bushels wheat; 250,000 of barley; and 370,000 of pease and beans. The chief other products are wine, skins, linseed, flax, olive-oil, wool, and barilla. The fisheries on the coast are of some importance, particularly those of coral and tunnies.

We possess no very recent or authentic account of the maritime commerce of the Sardinian states. It centres in Genoa, which, besides being the great seat of their export and import trade, is the channel through which much of the foreign trade of Switzerland and other neighbouring countries passes, and is, next to Leghorn, the chief entrepôt for Mediterranean commerce generally; to all which facilities are afforded by the abolition of transit-dues on goods passing through the states, low duties on consumption, and the establishment at Genoa of *porto-franco*, or bonded warehouses. In this way, olive-oil, wheat, sugar, coffee, cottons, woollens, linens, cotton wool and yarn, silks, indigo, salt-fish, drugs, hides, tobacco, wine, cheese, and other principal articles of trade, appear on the public accounts both as imports and exports. In 1835, the maritime imports amounted to £4,800,000; the exports to £3,440,000; and the aggregate amount of shipping entered was 2927 vessels, 268,109 tons. Of the shipping, 87 vessels, 15,068 tons, were from the United Kingdom, with which a treaty was concluded September 6, 1841, placing the ships of the two states on a footing of reciprocity as to privileges.

PORTS.—*Genoa*, styled from its magnificent appearance *la superba*, is advantageously situated in the bay of the same name, lat. 44° 24' N., long. 8° 54' E. Pop. 97,000. The harbour, formed by two moles, is accessible to large vessels. It was in the middle ages the rival of Venice; and its trade is, from the circumstances already noticed, still very considerable. Its chief commercial relations are with Britain, France, the Austrian and Neapolitan states, and Sicily; but it has also an active intercourse with the Russian ports of the Black Sea, from whence wheat, wool, and other articles are imported; the Levant; and Brazil, from which sugar, coffee, and other tropical productions are brought. Its trade is mostly carried on under the national flag,—the Genoese being distinguished for maritime enterprise. In 1835, the value of the imports into the *arrondissement* of Genoa was £3,840,000; and of the exports £2,520,000.

Nice lies about 90 miles S. W. of Genoa, near the borders of France, lat. 43° 41' N., long. 7° 17' E. Pop. 34,000. The port, accessible for vessels of 300 tons, is spacious and secure. Imports, corn, wine, manufactured goods, salt-fish, and colonials. Exports, olive-oil, fruit, &c. From 80,000 to 100,000 tons of shipping enter annually, chiefly national and French.

Cagliari, in the island of Sardinia, lies in a gulf on its S. side, in lat. 39° 12' N., long. 9° 7' E. Pop. 26,000. There is excellent anchorage, and a pier harbour. Exports, the produce of the island already described; imports, chiefly manufactured goods and tropical produce.

MEASURES, MONEY, FINANCES, &c.

MEASURES AND WEIGHTS.—*In Genoa*, the
of 2½ palmi = 22·69 Imp. inches; the
piccola used by tradesmen = 9 palmi,
na grossa used by merchants = 12 palmi,
custom-house canna = 10 palmi. The
ola wine measure of 2 barili or 100 pints
= 14·23 Imp. gallons; the oil barile of 4 quarti
= 14·23 Imp. gallons. The corn
2 quarti or 96 gombette = 3·31 Imp.
100 lbs. peso sottile (used for commo-
small bulk) = 69·85 lbs. avoird.; 100
o grosso = 76·88 lbs. avoird.; the rottolo
o peso grosso.

In Pisa, the raso or ell = 23·60 Imp. inches.
le of 800 trabucchi = 26·97 Imp. yards;
Piedmontese mile = 2771 Imp. yards.
ornate of 100 tavole = 3½ Imp. roods.
The brenta of 6 rubbi = 12·41 Imp.
; the carro of oil is 10 brente. The corn
3 staja = 3·17 Imp. bushels. The pound
ark = 5693 troy grains; and 4 rubbi, or
= 81·33 lbs. avoirdupois.

In Florence, the ell = 46·77 Imp. inches; the
liquid measure, of 12 rubbi, = 20·75
allons; the charge, corn measure, of 4
= 4·40 Imp. bushels; the quintal of 6
r 150 lbs. = 103·14 lbs. avoirdupois.

SARDONYX, a species of agate; being a variety of onyx, in which the opaque
alternates with a rich deep orange brown, of considerable translucency;
this is of rare occurrence, the sardonyx is of greater value. The finest are
ht from the East.

SARSAPARILLA, the root of different species of *Smilax*, an evergreen climbing
growing in the tropical parts of America. It is several feet in length; about
ickness of a quill, with joints at short distances. The cuticle is brown; the
al part or bark, in which the virtues solely reside, is white, gray, or reddish, and
siderable thickness; the wood and pith are white. It has a glutinous bitterish
and no smell. The commercial varieties are—1st, Honduras, composed of very
oots, often doubled in the bundles; 2d, Jamaica, distinguished by its red colour,
ie presence of its radicles; 3d, Brazilian or Lisbon, without radicles, in bundles,
ore dressed than the others; 4th, Caraccas, also much dressed. Sarsaparilla
ebrated for its use in chronic syphilitic, rheumatic, gouty, and cutaneous
es; and about 140,000 lbs. are annually entered for home consumption.

SARNET, a plain silken fabric, now chiefly employed for linings.

SASSAFRAS, a tree (*Laurus sassafras*) found in N. America, Jamaica, and
n-China, the root of which is imported for its use in medicine. It occurs in
ranching pieces, spongy, of a rusty white colour, a smell resembling fennel,
sweetish, aromatic, subacid taste. It yields in distillation a fragrant essential
a whitish-yellow colour, and so ponderous as to sink in water.

SATIN (Fr. *Satin*. Ger. *Atlass*. It. *Raso*. Por. *Setim*), a soft, closely woven,
d, silken fabric, with a glossy surface. Figured satins are manufactured by
of the Jacquard machine, of the most beautiful textures and patterns. After
taken out of the loom they are dressed by being rolled on heated cylinders,
imparts to them the beautiful lustre for which they are distinguished.
se satins are esteemed for the quality they possess of being easily cleaned and
ed; but in other respects they are inferior to those manufactured in Europe.
nest satins have long been made in Spitalfields. [SILK MANUFACTURE.]

SANTAL-WOOD, a cabinet-wood, well known for its glossy yellow shades. It
s in logs of 2 feet wide, and 7 or 8 feet long; but is now little used.

SANTAL-RED, a heavy insipid dye-wood, the product of a useful timber tree
ocarpus santalinus), found in Malabar, Mysore, Timor, and Ceylon. It is im-
d occasionally in large billets, of a reddish colour. It communicates a deep
alcohol, but gives no tinge to water.

SERRAS (Fr. *Scies*. Ger. *Sägen*. It. *Seghe*. Por. *Serras*. Rus. *Pili*. Sp. *Sierras*),
known instruments manufactured on a great scale at Sheffield, from whence
re sent to all parts of the world. [IRON MANUFACTURES.]

SAXONY, an inland German kingdom, lying between the Prussian and Aus-
states. Area, 5759 sq. miles. Population in 1840, 1,706,276. Capital,
len; pop. 70,000. Government, a constitutional monarchy, with a senate
ouse of representatives.

In Cagliari, the raso or ell = 21·63 Imp.
inches. The restiere, corn measure, of 3 starelli,
= 4·04 Imp. bushels. The cantaro of 4 rubbi,
or 104 lbs., = 91 lbs. avoirdupois.

MONEY.—Accounts are now generally stated
in Italian livres (or *lire nuove*), of 100 centesimi.
The lira nuova is a silver coin, equal in value to
the French franc, or 8½d. sterling. The other
coins, since 1827, have also been similar to those
of France.

Prior to 1827, accounts were stated in Genoa
in lire *fuori banco* of 20 soldi or 240 denari; and
5½ fuori banco were reckoned equal to 1 pezza
of exchange. 5 lire nuove = 6 lire fuori banco.

The usance of bills from London is 3 months'
date. There are no days of grace; but 30 days
are allowed to the holder of a bill to demand
payment.

In Cagliari, accounts are stated in lire of 4
reali, or 20 soldi; and 10 reali, or 2½ lire, = 1
scudo, worth about 3s. 7½d. sterling.

FINANCES.—The Revenue in 1839 was about
£2,960,000; and the expenditure nearly the
same. Debt, £5,800,000; bearing interest at 4
and 5 per cent. The credit of this state is high,
owing to the progressive liquidation of the debt,
and the punctual payment of the interest.

The country is traversed by the Elbe, navigable throughout for barges. The S. frontier is mostly formed by the *Erzgebirge* or Ore Mountains, the undulations and ramifications of which extend over the greater part of the country; though leaving a level tract along the N. part of the kingdom. Every spot capable of yielding a return is cultivated; but, except her celebrated wool, no agricultural produce is exported, owing to the great density of the population, which is chiefly engaged in mining, manufactures, and commerce. The principal metals are silver and iron; with lead, bismuth, arsenic, antimony, cobalt, and manganese: coal also is worked near Dresden. Of manufacturing industry the most important branch is that of cotton, which, as well as the others, has greatly expanded of late years, owing partly to the extraordinary cheapness of labour which has attended the extension of potato cultivation, and partly to the markets of Prussia and other parts of Germany having been opened up to the manufacturers by the Zollverein, which has benefited Saxony beyond any other of its members. [PRUSSO-GERMAN CUSTOMS UNION.] Most kinds of cotton fabrics are now produced; printing works are on the increase; and the cotton hosiery now competes with that of England in the American markets. The chief other manufactures are those of linens and woollens; but almost every article of luxury or use is made in Saxony, which, in respect of industry and civilisation, is the most advanced of the German states.

Saxony being now, commercially, united to other states by the Zollverein, we can give few details regarding its individual trade. It consists mainly in exchanging its manufactures, mineral products, and wool, for corn, salt, raw cotton, yarn, silk, flax, hemp, paper, fish, tropical produce, and fancy goods. It centres chiefly in Leipzig, to the fairs of which immense quantities of foreign commodities are likewise brought for the supply of other parts of the Continent. Of these fairs there are three;—New Year's Fair, which begins January 1; Easter or Jubilate Fair, on the third Sunday after Easter; and Michaelmas Fair, on the Sunday after Michaelmas: the last two are the greatest. Besides merchants from all parts of Europe, these fairs are frequented by all the German booksellers,—Leipzig, after London and Paris, being the chief literary mart of the world.

Measures and Weights.—The ell = 22·30 Imp. inches, and 100 ells = 61·96 Imp. yards. The Saxon or police mile of 2000 ruthes = 9914 Imp. yards. The morgen or acre of 300 square perches = 1 Imp. acre, 1 rood, 18 poles. The eimer, liquid measure, of 72 kannes, = 14·84 Imp. gallons; the ahm is 2, the oxhoft 3, the fass 5, and the fuder 12 eimers. The corn scheffel = 2·859 Imp. bushels; and the wispel of 2 malters, or 24 scheffels, = 8·58 Imp. quarters; the last of wheat or rye contains 6 wispels; the last of barley or oats, 2 wispels. The centner of 110

lbs. = 113·23 lbs. avoirdupois. The mark = 3602½ troy grains.

The preceding are the Dresden standards, which are now general throughout the kingdom.

Money.—The integer of account since January 1, 1841, has been the Prussian thaler or dollar of 30 new groschen = 2s. 1½d.

Finances.—The budget (1840-1842) gave the receipts at 5,540,297 dollars; and the expenses at 5,424,755 dollars. The debt in 1839 was 11,250,000 dollars. [GERMANY.]

SCAMMONY (Arab. *Sukmoonia*. Fr. *Scammonée*. It. *Scammonea*), a medicinal resin, resembling jalap, is the inspissated juice of the root of a plant (*Convolvulus scammonia*) indigenous to Syria. Three kinds occur,—Aleppo, the best, in spongy masses, of a glossy dark ash colour, peculiar heavy odour, bitter acrid taste, friable, and readily converted into a light gray powder; Smyrna, secondary; and Antioch, of very low quality. Nearly 7000 lbs. are annually consumed in the U. K.

SCANTLING, a general name for small timbers, such as the quartering for a partition, rafters, purlins, or pole-plates in a roof. All quartering or squared timber under five inches square is called scantling. The same term is used in carpentry, to express the transverse dimensions of a piece of timber; and in masonry, to designate the size of stones, in length, breadth, and thickness.

SCHEFFEL, a German corn-measure, varying greatly in different places.

SCHOONER, a vessel generally with two masts, and having all her lower sails fore and aft ones, i. e. in their usual position, in vertical planes passing through the keel: it has small or no topsails.

SCRIP. [FUNDS.]

SCUDO, a coin and money of account in Rome, Sicily, and Malta.

SCULPTURES. By the act 54 Geo. III. c. 56, copyright is constituted in sculpture, in so far as respects publication by casts. It exists during fourteen years from the first publication; and, at the end of that time, for another similar period if the artist be alive and have not disposed of his right. The name of the proprietor and the date must be marked on each cast or copy before publication. The act 6 Geo. IV. c. 107, prohibits the importation of any sculptures first made in the United Kingdom.

SEAL, the name of a family of amphibious animals, one species of which, the common seal (*Phoca vitulina*), frequents the British shores, particularly the north-west of Scotland; though it is in the Arctic regions that they chiefly abound. The seal is gregarious, and is fond of reposing on ice-fields,—situations where the greatest numbers are killed, chiefly for the oil obtained from their fat or blubber, which is preferred to that of the whale; though the animal is also valued for its skin, which is used, both with the hair on and when tanned into leather, for a variety of purposes. The seal-fishing is chiefly prosecuted from Newfoundland, Nova Scotia, and the United States; but whalers always take out seal-clubs as part of their equipment, the animal being most readily despatched by a blow on the nose; and one ship has been known to obtain a cargo of from 4000 to 5000,

yielding nearly 100 tuns oil. The gigantic walrus, belonging to the same class, is killed for its ivory tusks, as its carcass yields but a small proportion of oil; the chase of them, therefore, only constitutes a third-rate object in whaling voyages.

SEALING-WAX (Fr. *Cire à cacheter*. Ger. *Siegellack*) was anciently formed in England of bees-wax and resin; but since the introduction into European trade of shellac [Lac], the most adhesive of the gum-resins, the finer kinds have been principally composed of that material; adding camphor to make it ignite freely, and vermilion, lampblack, or some other colouring matter. Coarse wax consists chiefly of common rosin. And there are a variety of intermediate sorts, in which shellac and rosin are blended with colouring and other substances, according to the purposes intended. Spain and Holland were formerly distinguished for their sealing-wax; but it has long been manufactured in this country, principally in London and Edinburgh.

SEALS (Fr. *Cachets*. Ger. *Petschaste*. It. *Sigilli*. Por. & Sp. *Sellos*), for impressing letter-wax, and other soft substances, are usually formed of stone or metal, on which some device is engraved. The finest, composed of precious stones set in gold, are made in London and other towns. But immense quantities formed of stained glass, fixed in gilt copper, are manufactured, both for home consumption and exportation, at Birmingham,—the great seat of this kind of *bijouterie*.

SEAMEN, persons employed in navigating sea-going vessels. The laws for the regulation of those engaged in the British merchant-service were formerly the subject of numerous statutes, but in 1835 these were consolidated by 5 & 6 Wm. IV. c. 19, which also provided for forming and maintaining a Register of Seamen. An abstract of that act is given below. It includes regulations for the payment of their wages; but these do not deprive them of their lien on the ship, and other ordinary legal remedies. Their right to receive wages, however, depends, to a certain extent, on the successful termination of the voyage. It is said to be a general rule, that no wages are due where no freight is earned by the vessel, or that "freight is the mother of wages;" but the conclusion depends on the circumstances which have prevented freight from being earned. Where these have arisen from the acts or negligence of the owners or master, or of the persons with whom they have contracted for a cargo, the wages are not lost. Capture defeats the right of the seamen, which revives on recapture. Entire loss by shipwreck defeats the claim; but if any part of the cargo is saved, and freight earned by it, the seaman will have a claim for a proportional part of his wages; and it has been held in England, that mariners are entitled to wages from the proceeds of any parts of the vessel which their exertions are the means of preserving. (*Holt's Shipping and Navigation Laws*, 1826, p. 266-294. *Abbot on Merchant Ships and Seamen*, (6th Edition,) 540-598. *Bell's Commentaries*, vol. i. p. 509-519.)

ABSTRACT OF THE MERCHANT SEAMEN'S ACT, 5 & 6 Wm. IV. c. 19 (July 30, 1835).

§ 1. After 31st July 1835, the following acts, 2 & 3 Anne, c. 6, 2 Geo. II. c. 36, 2 Geo. III. c. 31, 31 Geo. III. c. 39, 45 Geo. III. c. 81, 37 Geo. III. c. 73, 58 Geo. III. c. 38, 4 Geo. IV. c. 25, 3 & 4 Wm. IV. c. 88, and 59 Geo. III. c. 58, repealed.

§ 2. It is not lawful for any master of a vessel trading to parts beyond the seas, or of any British registered ship of the burden of 20 tons, to carry to sea any one of his crew (apprentices excepted), without an agreement in writing specifying his wages, his capacity, and the nature of the voyage, signed by the master and seaman at the place of shipment. This agreement must be distinctly read over to each seaman before he signs, by or in the presence of the person who attests his subscription.

§ 3. Except as after provided, every agreement must be in the form of schedule A of the act; and the owners and the master, or one of them, on reporting his ship's arrival, must deposit with the collector or comptroller of customs a copy of the agreement, attested by the master. In the cases of ships employed in fishing on the coasts, or regularly trading coastwise, and of ships making regular voyages to Jersey, Guernsey, Alderney, Sark, or Man, or to any port on the continent between the Elbe and Brest, the agreement must be in the form of schedule B; and an owner must, within 10 days after the expiration of every 6 months ending on the 30th

June and the 31st December in each year, deposit with the collector or comptroller of the port to which the ship belongs a true copy of every agreement entered into with any part of the crew within the preceding 6 months, attested by his signature. All such copies are legal proof of the contents of the agreement, when produced in evidence on the part of any seaman.

§ 4. The penalty for not entering on the agreement is £10 for each mariner taken on board; that for not causing it to be read over, £5 for each; and that for not depositing a true copy with the collector or comptroller, £50.

§ 5. The agreement not to deprive seamen of their lien upon the ship, or other remedies they are now entitled to; nor is any covenant contrary to or inconsistent with this act, or any clause whereby a seaman shall consent to forego the right which the maritime law gives him to wages in the case of freight earned by ships subsequently lost, or containing any words to that effect, valid. Seamen are not bound to produce the agreement to sustain their claim.

§ 6. If a seaman who has signed an agreement fail to join, or refuse to proceed in the ship, or absent himself without leave, any justice near the place may, upon complaint, cause such seaman to be apprehended, and upon due proof, committed to gaol for a period not exceeding 30 days. But if the seaman, on being brought be-

fore the justice, consent to join the ship, the justice, at the request of the master, instead of committing him, may cause him to be conveyed on board, or to be delivered to the master, and also to award to the latter reasonable costs, not exceeding 40s., which may be deducted from the seaman's wages.

§ 7 Enacts a forfeiture for temporary absence from duty of 2 days' pay for every 24 hours of absence, and in a like proportion for any less period, or, at the option of the master, the expenses necessarily incurred in hiring a substitute. There is a like forfeiture if the seaman, "without sufficient cause, neglect to perform such his duty as is reasonably required of him by the master;" and if, after the ship's arrival at her port of delivery, and before her discharge, he quit the ship without a discharge or leave from the master, he forfeits 1 month's pay. But no such forfeitures are incurred unless the fact of the temporary absence, neglect of duty, or quitting the ship, be recorded in the log-book, with specification of the hour of the day, and the period of absence or neglect, the truth of which entry it is incumbent on the owner or master to substantiate by evidence.

§ 8 Describes the mode in which the forfeiture is to be ascertained when seamen contract by the voyage and not by the month.

§ 9. Every deserter forfeits all his clothes and effects on board, and all emoluments, provided the circumstances be entered in the log-book at the time, and certified by the signature of the master and mate, or other credible witness. Absence for any time within 24 hours of sailing, without permission, or for any period, however short, under circumstances plainly showing his intention not to return, is deemed desertion. If such desertion take place beyond seas, and the master be under the necessity of engaging a substitute at higher wages, the owner or master is entitled summarily to recover the increased amount from the deserter.

§ 10. Penalty for harbouring deserters, £10: and no debt (incurred after agreement) exceeding 5s. recoverable from a seaman till the voyage is completed; nor can seamen's effects be detained by lodging-house keepers under pretence of debt.

§ 11. Masters and owners must pay wages when demanded, as follows, viz. if the ship be employed coastwise, within 2 days after the termination of the agreement, or at the time of discharge, whichever first happen; and if the ship be employed in trading otherwise, at the latest within 3 days after cargo is delivered, or within 10 days after the discharge, whichever first; in either of which last-mentioned cases of payment being delayed, the seaman is at the time of discharge entitled to be paid on account one-fourth part of the balance due to him. Masters and owners, for neglect or refusal, forfeit to the seaman 2 days' pay for each day not exceeding 10 days of delay; for the recovery of which, the seaman has the same remedies as for the recovery of his wages. The clause does not extend to ships in the southern whale-fishery, or on voyages for which seamen are compensated by shares in the profits.

§ 12. Every payment of wages is valid notwithstanding any bill of sale or assignment by the seaman of such wages, or any attachment or incumbrance thereon; and no assignment or sale of wages made prior to the earning, and no power of attorney expressed to be irrevocable for the receipt of wages, is binding.

§ 13. Masters to give seamen certificates on their discharge, specifying the period of service and the time and place of discharge, under a penalty of £5.

§ 14. If after a seaman has been discharged 3 days, he be desirous of proceeding on another voyage, and so require immediate payment of

his wages, any justice, on satisfactory proof that he would be prevented from employment by delay, may summon the master or owner, and order payment forthwith; penalty for default, £3.

§ 15. As to recovery of wages, in all cases not exceeding £20, a justice, upon complaint on oath, may summon the master or owner, and make such order for payment as shall appear just, and levy the amount by distress and sale of the goods and chattels of the party; and in case sufficient distress cannot be found, the justice may cause the amount to be levied on the ship, or the tackle and apparel thereof. If the ship be not within the jurisdiction of the justice, he may cause the party to be imprisoned till payment. The justice's decision is final.

§ 16. Costs of suit for recovery of wages act to be allowed, if sued for in the superior courts, when they might have been recovered before a justice.

§ 17. When the ship is sold at a foreign port, the crew (unless consenting to be there discharged) are to be sent home at the expense of the master or owners.

§ 18. Medicines to be kept on board, and seamen hurt in the service of the ship to be provided with surgical advice gratis.

§§ 19 & 20 Provide for the establishment of a General Register of merchant seamen, at the Custom-house, London.

§ 21. The master of every British ship trading abroad (except as mentioned below), besides keeping the book required by 4 & 5 Wm. IV. c. 52 (which provides for the support of sick and disabled seamen), must, on reporting his ship on her arrival, deliver to the collector or comptroller at the port, an account of all the crew who have belonged to the ship at any time during her absence.

§ 22. Within 21 days after the 30th June and the 31st December in each year, the owner of every ship employed in fishing or trading on the coasts, or making regular voyages to any port of Europe between the Elbe and Brest, must deposit with the collector or comptroller of the port to which the ship belongs, or with the registrar in London, an account of the voyage in which the ship has been engaged during the preceding half-year, setting forth the names of the several persons who have belonged to the ship.

§ 23. If a ship be lost or sold while absent from the United Kingdom, the account must be made out up to the period of loss or sale, and transmitted by an owner or the master to the registrar in London, so soon as possible after a loss, and within 12 calendar months after a sale.

§ 24. The accounts and returns are to be transmitted by the collectors and comptrollers from time to time to the registrar. Every owner or master refusing or neglecting to deliver a list of account, forfeits £25.

§ 25. Whenever a seaman, being abroad, dies elsewhere than on board ship, leaving effects, the British consul is required to take charge thereof, and dispose of them for the benefit of the next of kin; and in case no claim be made within 3 calendar months after the death, the consul, after abating expenses, is to remit the balance to the president and governors of the corporation "For the relief of disabled seamen, &c., in the merchant service," for the purposes provided by the 4 & 5 Wm. IV. c. 52. In case any seaman so dying leave on board any effects, which are not claimed within 1 month after the ship's return by the executor or administrator, the master is required to deposit the same or the proceeds in the same manner.

§§ 26 to 30 Regulate the sending to sea of parish boys and parish apprentices.

§ 31. The master of every ship of the burden of 80 tons and upwards, must have on board, at

clearing out, one apprentice or more, in the following proportions to the tonnage, viz.:—Every ship of 80 tons and under 200, one apprentice at the least; every ship of 201 and under 400, two; every ship of 401 and under 500, three; every ship of 501 and under 700, four; and every ship of 701 and upwards, five at the least; all of whom, at the period of their being bound, shall have been under 17 years of age, and shall have been bound for 4 years at the least. If a master neglect to have on board the proper number, he forfeits £10 for each apprentice deficient.

§ 32. Apprentices exempt from contributions for hospitals.

§§ 33 and 34. Indentures and assignments of parish and other apprentices to be registered as therein mentioned. Apprentices may be employed in any ship of which their master is master or owner.

§ 35. Agreements, indentures, assignments, &c., under the act, are free of stamp-duty.

§ 36. Penalty on masters neglecting to register indentures, and for suffering apprentices to quit their service, £10.

§ 37. Any two or more justices, at or near the port of arrival, have authority to determine complaints between masters and apprentices.

§ 38. Common assaults on board merchant-ship may be summarily punished by two justices; and the fine shall be payable to the merchant-seamen's hospital or institution nearest to the port of adjudication.

§ 39. Masters entitled to receive the wages of apprentices entering into the navy; which they cannot do except with their master's consent.

§ 40. As mischief has arisen from seamen being left in foreign parts, masters forcing on shore or leaving behind any of the crew are subject to fine and imprisonment.

§§ 41 and 42. Seamen not to be discharged, nor left on the plea of desertion, at any colony, without the written sanction of a government-officer; nor at any other place abroad, without the sanction of the British consul or two respectable merchants.

§ 43. If any of the crew are left behind, the proof of sanction or authority, as above, is to be upon the master in the case of dispute.

§ 44. Seamen when allowed to be left behind, are to be paid their wages, a true account of which shall be delivered by the master to the functionary or merchants, as aforesaid, under a penalty of £25. If wages be paid by a draft on the owners, the functionary or merchants must testify, by certificate indorsed on the bill, that it is drawn according to this act for money due on account of wages of a seaman.

§ 45. Act not to prevent seamen from entering the navy; and no penalty can follow such entry. Agreements to the contrary void.

§ 46. Upon entry of seamen into the navy from merchant-ships, they shall be entitled to the immediate delivery up of their clothes, and payment of any wages that may be due, according to the regulations prescribed.

§ 47. The crown empowered to sue for the amount advanced for the relief of seamen left abroad. In any proceeding for that purpose, proof of the account furnished to the commissioners by any functionary or merchants as above,

together with proof of payment by the navy department of the charges incurred, is sufficient evidence that such person was relieved and conveyed home at his majesty's expense. The court in which such proceeding is instituted is authorized to issue commissions for the examination of witnesses abroad.

§ 48. Every master, on his arrival at any foreign port where there is a British consul or vice-consul, must deliver to him the agreement with his crew, to be preserved during the ship's stay there, and to be returned to the master before his leaving the port, without any fee or charge; and every master, for refusal or neglect to deliver, forfeits £25.

§ 49. During the ship's stay at any foreign port, no seaman can be shipped except with the privy of the consul or vice-consul, indorsed or certified on the agreement, under a penalty of £25 for every seaman otherwise shipped.

§§ 50 and 51. Masters, when required, must produce agreements to officers of king's ships. Such officers may muster the crew; penalty on master for refusal, £25. Registrar and officers of customs may require production of the agreement and muster-roll, and muster the crew, under a penalty for refusal of £50.

§ 52. For the purposes of the act, every person having the charge or command of a ship is deemed the master, and every person (apprentices excepted) employed to serve in any capacity on board is deemed a seaman; and "ship," comprehends every vessel navigating on the sea, and the "owner," all to whom the ship belongs, and all steam and other vessels employed in carrying passengers or goods, are deemed trading-ships.

§ 53. Penalties and forfeitures, for the recovery whereof no specific mode is provided, may be recovered, with costs, as follows, viz.:—All penalties not exceeding £20, by information and summary proceeding before any one or more justices, residing near the place where the offence is committed or where the offender may be, who may levy the amount by distress and sale, or commitment for non-payment. All penalties exceeding £20 may be recovered, with costs, in any court of record at Westminster, Edinburgh, or Dublin, or in the colonies, at the suit of the chief law-officer of the crown. All penalties, for which no specific application is provided, are to be applied as follows, viz.:—One moiety to the informer, and the residue to be divided between Greenwich Hospital and the Merchant Seamen's Hospital or Institution at the port to which the ship may belong; and if there be none such, the whole to Greenwich Hospital. The court may mitigate any penalty, but not below one-half. All proceedings must be commenced within two years next after the commission of the offence, if the same shall have been committed at or beyond the Cape of Good Hope or Cape Horn, or within one year if committed on the European side of those limits, or within six calendar months after the return of the offender or the complaining party to the United Kingdom.

§ 54. The act does not extend to any ship registered in or belonging to any British colony having a legislative assembly, or to the crew of such ship, while she is within the precincts of the colony.

SEAWORTHINESS of a vessel, in the law of marine insurance, is an implied warranty on the part of the insured, or one of those conditions of the contract, the want of compliance with which renders it null. It is generally provided in the policy that the vessel shall be "tight, staunch, and strong, properly manned, provided with all necessary stores, and in all respects fit for the intended voyage." The seaworthiness must be adapted to the nature of the service, for what will suit a coasting voyage will not enable a vessel to proceed to India. Seaworthiness includes the having a competent master and a sufficient crew, with a proper equip-

ment of masts, sails, and anchors. If the vessel sail to a port where a pilot is necessary, the master must obtain one, or use every effort to do so; and having employed one, must not dismiss him within the fair way. It is a general rule, that it is of no consequence whether the owners or the master know of defects affecting seaworthiness or not. In one case, of which no very distinct report has been preserved (*Mills v. Roebuck* in Exch., see *Park*, 460; *Marshall*, 154), there was an apparent divergence from these rules; and so far as can be collected, the grounds appear to have been, that from the place of her build the underwriters had to expect inherent defects in the vessel's construction; and that they had reason to know the progress of these defects from the representations made when the slip was signed. (*Park on Insurance*, 8th edit., 458-496. *Marshall on Insurance*, 146-161.) [INSURANCE.]

SEER, an Indian weight. The E. I. C.'s new seer of 80 tolas = 2.057 lbs. avoird.

SEIGNORAGE, the profit derived from issuing coins at a rate above their intrinsic value.

SENNA (Fr. *Séné*. Ger. *Sennablater*. It. *Senna*), a well-known medicine, composed of the leaflets and occasionally of the leaf-stalks and pods of several species of *Cassia*, cultivated in Arabia, Syria, and Egypt. About four-fifths of that brought to the English market is Arabian or Mecca senna, commonly called East India senna, from being shipped from Indian ports. It is the product of *C. lanceolata*; leaflets very narrow and acute. Other kinds are imported from the Levant; and at second-hand from Italy, under the designations of Alexandrian, Tiunivelly, Aleppo, and Tripoli senna. The Alexandrian (*C. acutifolia*) is the most valuable; but it is often adulterated. About 200,000 lbs. are annually entered for consumption in the United Kingdom.

SEQUESTRATION—*Mercantile*, in the law of Scotland, is the process by which the effects of a bankrupt trader are realized and divided among his creditors, as by the process of bankruptcy in England.

The law on the subject is contained in the Statute 2 & 3 Vict. c. 41, of which what follows is an abridgment:—

Persons who may be sequestered.—Any debtor "who is, or has been, a merchant, trader, manufacturer, banker, broker, warehouseman, wharfinger, underwriter, artificer, packer, builder, carpenter, shipwright, innkeeper, hotel-keeper, stable-keeper, coach-contractor, cattle-dealer, grain-dealer, coal-dealer, fish-dealer, lime-burner, dyer, printer, bleacher, fuller, calenderer, and generally any debtor who seeks, or has sought his living, or a material part thereof, for himself, or in partnership with another, or as agent or factor for others, by using the trade of merchandise, by way of bargain, exchange, barter, commission or consignment, or by buying and selling, or by buying and letting for hire, or by the workmanship or manufacture of goods or commodities." No one can be sequestered as "a holder of stock in any of the public or national funds, or of India stock, or as a partner in any company incorporated or established by act of parliament, or by charter, or as a landholder or farmer, unless such landholder or farmer be *bona fide* a dealer in cattle not the produce of, nor grazed, nor worked on his farm, or unless he be a dealer in grain not the produce thereof" (§ 5). The debtor (unless he consent) must be bankrupt, must have carried on business within Scotland, and must have also within a year before the date of presenting the petition resided, or had a dwelling-house, or place of business in Scotland. Bankruptcy is not necessary where the debtor has been in the sanctuary for 60 days, either continuously or not, within the space of 12 months. A company may be sequestered, provided (unless the company consent) one of the partners has been made bankrupt for a company debt, and the company have carried on business in Scotland, and a partner have had a dwelling-house or the company a place of business there within a year and day before the presentation of the petition. Sequestration may be awarded of the property of "any deceased debtor who at the time of his

death resided, or had a dwelling-house, or carried on business in Scotland, and was at that time owner of heritable or moveable estates in Scotland;" but not until the expiry of six months after his death, unless he had granted a mandate to apply for sequestration, or was bankrupt when he died, or had remained in sanctuary for 60 days, at some time or other within the 12 months preceding his death, or unless his successor shall concur in the petition or renounce the succession (§ 4).

Application, Awarding, and Recall.—Sequestration may be awarded on the application of the debtor, with concurrence of creditors, or at the instance of creditors alone. Those creditors entitled to petition, or to concur, are—any one creditor whose debt amounts to £30, any two whose debts together amount to £75, or any three or more whose debts together amount to £100. The debts need not be liquid, but they must not be contingent. Application is made by petition to the lord ordinary, signed by the petitioner or his counsel. In the case of a petition without consent, it must be presented within four months after the bankruptcy, or, in case of retiring to the sanctuary, within four months after expiration of the 60 days. The petitioning or concurring creditor produces with it his oath, accounts, and vouchers. There are provisions for the petitioning creditor (in the case either of the debtor's decease or of his not concurring), specifying the circumstances which bring him within the range of the act (§ 12). Where the application is with consent of the debtor, the lord ordinary awards sequestration, and appoints a meeting to be held, not earlier than eight or later than 14 days from the deliverance, to elect an interim-factor; and another meeting not less than four weeks and not more than six weeks from the date of the deliverance, at the same place, to elect a trustee or trustees in succession, and commissioners. A remit is made to the sheriff, and protection is granted to the debtor

arrest or imprisonment for civil debt meeting for election of trustee. There are provisions for giving notice to such in the case of a debtor deceased. Where a creditor is without the debtor's consent, the court has provisions for his being cited for his in-
 d for the recovery of evidence as to the debt, &c. If he do not appear, or do not pay the debt, or produce evidence to the creditors appearing against sequestration is awarded, meetings are held, and protection is granted as above. By applying for sequestration, before the second lawful day after the first day, must present an abbreviate, to be entered in the register of inhibitions. The effect of an inhibition, and of an adjudication, and so of tying up the bankrupt's property, till it is disposed of in law. The party must also insert a writ within four days from the date of the debt, in the Edinburgh, and within eight days in the London Gazette. The awarding of sequestration has the effect of bankruptcy from the date of deliverance, without prejudice to any bankruptcy. The sequestration is not subject to review, but it may be recalled, on application to the lord ordinary, within 40 days. There is a greater latitude in the case of the sequestration of a deceased debtor edictally cited. Nine days after the creditors in number and value may apply for recall, notice being given, of the act, to all concerned.

Creditors as a Body.—To entitle a creditor to petition, concur, vote, or draw a dividend, he must produce an oath before a magistrate, or justice, to the verity of his claim, stating in his oath what other persons are, besides the bankrupt, liable for any part of the debt, and any security he may hold for the estate of the bankrupt or of other obligors, and stating that he has no other obligations or securities besides those specified. Where no other person besides the bankrupt so liable, and no security, he must depone to that effect. A corporation may make affidavit by its officer. A creditor abroad may make affidavit, subject to certain regulations, in the country where he resides, or his agent may make oath of credulity. The agent for a creditor under age may make such oath of credulity. A creditor having once qualified is entitled to vote, however unsound his claim may be. A creditor must produce, with his oath, accounts and vouchers as may be necessary to prove his debt. If he have not the vouchers, on his oath the reasons why he is not able to produce them, and whose hands he believes them to be in, a dividend will be set apart till he produces his claim. If a creditor, who has petitioned, concurred, or opposed, withdraw, or be bankrupt, or die, another may be substituted in his place, and may follow out proceedings. The story of a creditor, exhibiting a written statement, may vote in his stead. Interest, up to the date of the sequestration, may be accumulated, but not farther interest. If there be no dividend by the usage of trade, or if the term be not arrived, a corresponding discount must be made of discount or interest. If a creditor hold a security, he must deduct it from his claim; he can vote only on the balance, and on questions as to the disposal or management of the estate subject to the security, he can vote to the whole amount. A creditor has an obligant bound with, or in relief to the bankrupt, or holds any claim from an obligant liable in relief to the bankrupt, or any security from which the bankrupt has a right of relief, he must put a value on the obligation, in his oath, and

is entitled to vote only on the balance. A creditor of a company is not bound to deduct the dividend he may be entitled to from the estate of the partners. Before voting on a partner's estate, however, he must put a value on his claim against the company, and on his claim against the other partners. While a debt is contingent, the creditor cannot vote except to the extent of the value that may be put on it by the trustee or the sheriff.

Meetings, Election of Trustee, Factor, and Commissioners.—The trustee or any commissioner may at any time call a meeting, and the trustee is bound to call a meeting whenever he is required by one-fourth in value of the creditors ranked. Meetings appointed by the act are held on notice of the day, hour, place, and purpose, advertised 14 days before in the Edinburgh Gazette (except in case of the meeting for electing an interim-factor), and any meeting may be adjourned to the following day. No notification is to be sent to creditors who direct none to be sent, or to creditors for less than £20, unless they give directions in writing to send them notice. Unless where there is an express provision otherwise, questions at meetings of creditors are settled by the majority in value of those present; "and where, for the purpose of voting, the creditors are required to be counted in number, no creditor whose debt is under £20 shall be reckoned in number, but his debt shall be computed in value" (§ 44). Meetings may be adjourned, if not carried beyond the times fixed by the act.

At the meeting for the election of interim-factor, if two or more creditors give notice, the sheriff or sheriff-substitute must attend the meeting, and adjourned meetings, and preside. The sheriff-clerk must attend, to mark the oaths and productions with his initials, and write the minutes. If no sheriff is present, the creditors elect a preses, and if no sheriff-clerk be present, a clerk, both proceeding as above. In either case, those who have been entered in the minutes as qualified, proceed to elect an interim-factor or trustee, as the case may be. No person related to, or in business with the bankrupt, or holding an interest adverse to that of the creditors, is eligible as trustee. If the sheriff be present, and there be no competition, and no objections stated, he declares the person chosen to be interim-factor or trustee as the case may be. If there be objections to votes or candidates, they must be stated at the meeting, when the sheriff may either forthwith decide on them, or reserve them for consideration. If necessary, he may take note of objections and answers, and within four days after the meeting, decide on hearing parties *viva voce*, stating the grounds of his decision in a note. An ordinary preses, however, must report whether there is opposition or not, the sheriff declaring the result, or deciding on objections. The creditors at these meetings fix a sum for which the interim-factor or trustee is to find security, and decide on the sufficiency of the caution offered. Against the sheriff's declaration of the election of a trustee an appeal may be taken during session to the Inner-house of the Court of Session, or during vacation to the lord ordinary, on notice in writing being lodged with the sheriff-clerk within two days after the decision. The costs must be paid by the unsuccessful party. An appeal does not stop proceedings in the sequestration. At the meeting for electing a trustee, commissioners are elected, and the interim-factor's remuneration may be fixed in the same manner. The commissioners must be creditors or mandatories. They are not bound to find security. The sheriff decides who are duly elected.

Interim-Factor or Sheriff-Clerk.—If the creditors fail to elect an interim-factor, or the

nomination otherwise fail, his duties devolve on the sheriff-clerk. They are as follows: He must immediately take the steps necessary for the preservation of the estate until the meeting for election of trustee. He must "take possession of and recover the bankrupt's estate, and his title-deeds, books, bills, vouchers, and all other documents whatsoever, so far as then known, and make an inventory thereof" (§ 51), a copy of which he must transmit to the bill-chamber. He must lodge all monies in bank in the same manner as the trustee, and pay the expenses of the petitioning or concurring creditor out of the first funds realized. He must keep a sederunt-book. At the meeting to elect a trustee he must exhibit the sederunt-book, "and also an account of his intromissions and disbursements, and if required by any creditor, the books of the bankrupt, with the title-deeds, bills, vouchers, and other documents, conform to inventory;" and if the meeting be satisfied, they are to fix his remuneration, to be paid with his advances out of the funds in his hands. If he be dissatisfied with the sums allowed, the amount is to be determined by the sheriff.

Commissioners.—A majority form a quorum. "The commissioners shall superintend the proceedings of the trustee, concur with him in submissions and transactions, give their advice and assistance relative to the management of the estate, examine the acts and intromissions of the trustee, audit his accounts, decide as to paying or postponing payment of a dividend, fix his remuneration, and may assemble at any time to ascertain the situation of the bankrupt estate; and any one of them may make such report as he may think proper to a general meeting of the creditors" (§ 57).

Trustee.—"The trustee shall manage, realize, and recover the estate belonging to the bankrupt, wherever situated, and convert the same into money, according to the directions given by the creditors at any meeting, and if no such directions are given, he shall do so with the advice of the commissioners; and he, as well as the interim-factor or sheriff-clerk acting as factor, shall lodge all money which he may receive in such bank as four-fifths of the creditors in number and value at any general meeting shall appoint" (§ 61); and failing such appointment, in one of the chartered banks. The bank must annually balance the account, and accumulate the interest with the principal sum, being liable to account as if the money had been so accumulated. If the interim-factor, or trustee, keep in his hands more than £50 for more than 10 days, he must pay at the rate of 20 per cent. per annum on the excess, for such time as it may be in his hands beyond the 10 days; and unless the money has been kept from innocent causes, he will be dismissed, on petition to the lord ordinary. The trustee must keep a sederunt-book, entering minutes of creditors and of the commissioners, states of accounts, reports, and other proceedings. He must send an account to the bill-chamber before each dividend. Where a document is confidential, the trustee is not bound to insert it in the sederunt-book, or exhibit it to any one except the commissioners. Within 8 days after confirmation, the trustee applies to the sheriff to name a day for the bankrupt's public examination. On the warrant being granted, the trustee intimates in the Edinburgh Gazette his own election, and the time and place of the examination. He must intimate a day and hour for a meeting of the creditors, which must be not less than 14, nor more than 21 days after the day of examination, or (in the case of a deceased debtor) after the trustee's confirmation. Within 14 days after the examination the trustee must prepare a report as to the posi-

tion of the estate, and an estimate of what it may produce, to be presented to the meeting, where he must be prepared to give all explanations. A majority in number and value at any meeting called through the Edinburgh Gazette, at least 14 days previously, by advertisement, specifying the purpose of the meeting, may remove the trustee or accept of his resignation. One-fourth of the creditors in value may apply to the lord ordinary for removal, showing cause. There are provisions to meet the resignation, death, or absence of the trustee. On the expiration of six months from the date of the sequestration, the trustee must make up a state of the whole estate, of the funds recovered, and of the funds outstanding (stating why they have not been recovered), "and of his intromissions, and generally of his management." The commissioners, at their meeting within 14 days after the expiration of the six months, examine the state, and audit the trustee's accounts, and decide whether any and what dividend is to be made. Before a composition is approved of, the trustee's accounts must be audited by the commissioners, and the balance due to him fixed, and paid or provided for. There are provisions for the registration of sequestrations; and to these the trustee must attend. After a final division, the trustee calls a meeting on 21 days' notice, by advertisement and letters, to consider his application for discharge. On his producing his vouchers, the creditors may declare their opinion of his conduct, and he may apply to the lord ordinary or the sheriff for exoneration and discharge. Before his discharge he must transmit the sederunt-book to the bill-chamber clerks, who will intimate to him the bank in which unclaimed dividends are to be lodged.

The Bankrupt's Liberation, Protection, and Discharge.—The lord ordinary may, on the bankrupt's application, grant warrant of liberation, after hearing objections. If the application be refused, the bankrupt may petition a second time with consent of the trustee and commissioners. At the meeting for election of the trustee, and at the meeting after the examination, or at any meeting called for the purpose, a majority in number and value may authorize the trustee to apply to the sheriff for a renewal of the personal protection.

Allowance.—Four-fifths in value of the creditors at such a meeting, may vote an allowance to the bankrupt, until the payment of the second dividend. It is not to exceed £3, 3s. per week.

State of Affairs.—The bankrupt must, before the time for the election of trustee, make up, subscribe, and deliver to the interim-factor, a state of his affairs, "specifying his whole estate, wherever situated, the estates in expectancy, or to which he may have an eventual right, the names and designations of his creditors and debtors, and the debts due by and to him, and a rental of his heritable subjects" (§ 52). He must give every information and assistance necessary to enable the factor or trustee to execute his duty; and if he fail to do so, or to grant any requisite deed, application may be made to the sheriff to compel him. There are provisions for bringing the bankrupt up for examination, or where necessary for taking the examination by commission; and likewise for enabling the trustee, where he finds it necessary, to procure the judicial examination of the bankrupt's wife and family, clerks, servants, and law-agent. They must answer all lawful questions relating to the affairs of the bankrupt; and there are provisions for compelling them to answer, and for enforcing production of books and vouchers. A *latent partner*, who does not reveal himself by the time of the examination, forfeits the privileges of the act, unless he prove that the conceal-

occasioned by innocent mistake. There (or affirmation, as the case may be) bankrupt must take and subscribe in o the state of his affairs. In case of trustee may be authorized to prosecute bankrupt.

Discharge by Bankrupt.—See COMPOSITION.

Discharge.—If every qualified creditor concurs, bankrupt may petition the lord ordinary for discharge at any time after the meeting his examination. He may petition after the date of the sequestration, if in number and four-fifths in value contrary-one days are allowed for opponents.

When found entitled to his discharge, bankrupt must make a declaration, or if oath, that he has made a full and order, and has not granted or promised money or security, or made or promised contract, or entered into any secret or collusion or transaction, to obtain the discharge of any creditor to his discharge. The discharge, when granted, operates in any part of the dominions as an acquittance to the bankrupt.

An entry of it is made in the register of the court. If the bankrupt be concerned in any collusive preference to a creditor, he forfeits his title to a discharge; and if it have been granted either on an offer of composition, may be annulled by the trustee, or any creditor, or the lord ordinary. If the bankrupt do to the trustee any property that may be due before his discharge, he forfeits all his property of the act. Any surplus after payment of debts, interest, and expenses of the sequestration payable to the bankrupt or his representative.

Disposition of Property.—By the confirmation the moveable property is held to vest in the trustee from the date of the first deliverance, in preference to the other creditors. Where by the act a conveyance requires registration, confirmation must be registered. No disposition of such property out of Scotland for a consideration, prior to the registration, is valid, except the purchaser's ignorance of the sequestration be proved. Property falling to the bankrupt before his discharge, vests as at the date of the sequestration. All preferences and deeds of the bankrupt during the sequestration are void, except with the consent of the interim-factor or the trustee. *Bona fide* purchasers, however, are secured, and so are debtors paying to the bankrupt in ignorance of the sequestration. Heritable rights on which infestment follows are, in questions under the act, to be determined by the date of the registration of the sasine; and assignments, and other conveyances not requiring infestment, but requiring destination to complete them, are held to be valid from the date of the act so required to complete them. Any person claiming any right or subject included in the sequestration, may petition to the lord ordinary. There are no special diligences for attaching property, but ordinary diligences, in the case of a debtor, when they have not been completed before his death. The bankrupt, if he must grant any deed necessary for the redemption of his estate, and feudally vesting it in the trustee may complete feudal titles in his name, and superiors must enter him. The trustee may validly grant conveyances. There are no special diligences for compelling a transference to the trustee, where an heir has served to the bankrupt's property. The trustee and the creditors, within two months after a creditor has taken an oath, in which he has deducted

a security, as also the majority of the creditors (the creditor with the security not being counted) at the meeting where such creditor has voted, may require him to assign his security to the trustee, on payment of the value he has set on it, with 20 per cent. additional. The creditor may correct his value at any time before he is called on so to assign.

Disposal of the Property, and Questions with Creditors having a Right to Sell.—At the meeting after the examination, or at a meeting called for the purpose, the creditors may give directions for the recovery, management, and disposal of the estate. Where there is heritable property, they may determine whether it is to be disposed of by voluntary public sale, or to be brought to judicial sale. If the creditors have resolved on the manner in which such property is to be disposed of, before a creditor having a power to sell has commenced proceedings, or while he is unduly delaying a sale of heritable property, the trustee grants a title, subject to real securities. No expenses connected with the sequestration or sale are payable out of such part of the price as may be necessary to discharge the preferable securities; and no preferable heritable creditor is liable for any such expense unless he have consented to the sale, in which case he is liable for the expense of the sale. A creditor may purchase any estate sold under the act, but the interim-factor, trustee, and commissioners, may not purchase.

Declaration of Dividend and Ranking.—The commissioners at their meeting within 14 days after expiry of six months from the date of the sequestration, declare what amount may be distributed in dividends; and within the same 14 days, if a dividend is to be made, the trustee must examine the oaths and grounds of debt, and in writing reject or admit them, or require farther evidence, stating the reasons where he rejects. He then makes up two lists; one, of the creditors he ranks as entitled to draw dividends, specifying their debts, with interest to the date of the sequestration, and distinguishing the ordinary from the preferable creditors. The other list is of the creditors whose claims he has partially or wholly rejected. Notice is sent to rejected creditors, who may appeal to the lord ordinary or sheriff. A creditor who holds a security, before being ranked, must put a value upon it, deduct it, and specify the balance, on which alone he can rank. The trustee is entitled either to demand an assignation to the security on paying the value put upon it, or to let the creditor take the benefit of it. In the case of the claim on a partner for a company debt, the dividend from the company must be deducted. An annuity creditor ranks for the value put on his annuity, and if there be a cautioner for the annuity he is discharged, on payment of the estimated value and arrears. Co-obligants with the bankrupt are not discharged by the creditor consenting to the steps of the sequestration; but if the co-obligant pay the debt, the creditor must assign it to him, and he may rank for it.

Payment of Dividends.—Where there are sufficient funds realized, the dividends are respectively payable on the first lawful day after the expiration of the following periods, viz. the first, of 8 months from the date of the sequestration; the second, of 12 months from the same date; and future dividends after the expiration of 4 months from the date of the payment of the immediately preceding dividend, until the whole funds be distributed. To entitle a creditor to payment of the first, or of the second, or of any other dividend, he must produce his oath, &c., at least 2 months before the time of payment. A creditor who has not been in time for the first dividend is entitled to a preference on the subse-

quent dividends. After the expiry of the 14 days, within which (on the expiry of the six months from the date of the sequestration) the trustee has to make up his state and rank the creditors, he must advertise in the Edinburgh Gazette the time and place for payment; and on or before the first lawful day after the 14 days, he must notify the same to each creditor by post, with the amount of the claim and dividend. Before the expiration of eight months from the sequestration, the trustee has to make up a scheme of division among those creditors whose claims have been sustained, or who have appealed. The scheme must be patent to all concerned. The like proceedings take place at intervals of four months till the trust is wound up. Dividends reserved on account of an unaccomplished contingency, or appeal, are to be lodged in bank. The commissioners may postpone a dividend till the period for making the next one, directing the trustee to give notice in the Edinburgh Gazette.

Winding up and Miscellaneous.—After 12 months from the commencement, if it seem expedient to sell the remaining property, and

outstanding claims, a day may be fixed for a meeting for the purpose, to be called by advertisement and special notice. On three-fourths in value of the creditors assembled consenting, the sale may take place by auction. Unclaimed dividends being deposited in bank at the direction of the clerks of the bills, a register is kept of them. The parties entitled, on applying to the lord ordinary, obtain payment of such unclaimed dividends, but without interest, which is accumulated in a separate fund, at the disposal of parliament. There are provisions for punishing all frauds and collusive preferences, and for nullifying the advantage sought to be obtained by them. The resolutions of meetings, and proceedings of the trustee, may be appealed against to the lord ordinary or the sheriff,—the former within 14, the latter within 30 days. Persons, by merely claiming and voting, are not liable to the agent's expenses. He has his recourse merely against the estate, or the interim-factor or trustee who may have employed him. [AFFIDAVIT. BANKRUPTCY. COMPOSITION CONTRACT.]

SEQUIN, an Italian gold coin = 9s. 5d. ; also a Turkish money.

SERGE, a quilted woollen cloth, made in Devonshire and other parts of England.

SERPENTINE, a mineral, one species of which, called noble serpentine, green and translucent, is valued as an ornamental stone.

SERON, a kind of package, formed of pieces of wood fastened with hides.

SHAD (*Alosa finta*, Cuv.), a fish allied to the herring, found in the Severn and in the Thames, where it is in season in July; its flesh is unpalatably dry.

SHADDOCKS, a large species of Citrus (*C. decumana*), commonly cultivated in both the East and West Indies for the sake of the delicate subacid juicy pulp in which they abound. When at their greatest size they are called Pompoles; the smallest form the Forbidden Fruit of the English markets.

SHAGREEN (Fr. *Chagrin*. Ger. *Schagrin*. Rus. *Schagrim*), a sort of hard grained leather, prepared in a peculiar manner from the skin of horses and other animals; the part preferred being the piece above the tail. It is made in Poland; Russia, especially at Astracan; and in various parts of the Levant. The best is said to be imported from Constantinople. It is employed in the manufacture of small cases and boxes.

SHALLOONS, loosely made woollen stuffs, commonly used for lining coats.

SHAMMY or CHAMOIS LEATHER, is properly the dressed skin of the chamois goat; but common goat, kid, or sheep skin is generally substituted for it.

SHARKS' FINS are exported in large quantities from India to China, where they are esteemed a very strengthening food. They are chiefly collected in the Arabian and Persian Gulfs; but they are likewise prepared on the coasts of India. They should be chosen large and properly cured. Those under nine inches long reckon only as one-half the value of the others.

SHAWLS (Fr. *Chals*, *Chales*. Ger. *Schalen*. It. *Sharali*. Por. *Chales*. Sp. *Schavalos*), well-known articles of dress, made of silk, wool, or more commonly of silk and wool mixed. The chief seats of the shawl manufacture in this country are Paisley and Norwich. The competition of the French, after the opening of the silk-trade in 1826, produced improvements in style and pattern, which led to a signal extension of the British manufacture. And though our native patterns are scarcely yet equal to the French as respects the contrast of colours, they are yearly improving, owing to the increased attention now bestowed on the arts of design. But both British and French shawls are inferior to those made in the Valley of Cashmere, from the wool of a species of goat found on the cold mountains of Thibet; the exquisite fabric of which cannot be successfully imitated by foreigners. The European manufacturer may impart much of the beauty and copy with success the pattern; but his web possesses none of the delicacy, softness, and warmth of the original. Nor are the weavers of the adjoining countries more successful; the shawls of Lahore and Delhi, though woven by natives of the valley, and with the same materials, are wanting in the fineness of those prepared in Cashmere. If implicit reliance is to be placed in the people, the shawl derives much of its beauty from the water in which the wool is dyed, and which is peculiar to their country. Notwithstanding the reputation of these shawls, however, the number of looms employed in their manufacture has greatly fallen off in modern times. According

is a statement copied by Mr Martin, in his work on the British Colonies, from the Delhi Gazette, the number at present is estimated at 6000, and the average value of shawls annually exported from Cashmere about £180,000. The Cashmere shawls are generally sold in pairs : they usually consist of three sizes, two of which, the long and the small square, are those commonly brought to this country ; the other, long, very narrow, and chiefly of a black colour, is worn by many Asiatics as a girdle. The shawls for the British market are mostly selected with coloured grounds, and handsome rich borders and flowers. They are imported chiefly from Bombay and Surat.

At present, owing to the caprice of fashion, shawls are much less worn in this country than formerly ; and great distress has in consequence been produced in Paisley and other places dependent on their manufacture ; but this depression is we hope but temporary.

SHEEP (Fr. *Brebis*, *Mouton*. Ger. *Schafe*), a ruminating animal, chiefly distinguished for its fur or hair, which is of two kinds,—one hard and close, and the other woolly ; the latter preponderating in proportion as the animal is domesticated. In Europe and other parts of the world the sheep is carefully tended for its wool, which is the chief material of the clothing of all northern nations. But every part is fitted for use. The flesh, heart, liver, kidneys, and spleen, as food ; the intestines are made into strings for musical instruments ; the skin into leather and parchment ; the bones into handles, spoons, and toys ; the internal and loose fat makes tallow ; their milk may be made into cheese ; and their dung is a rich manure. The sheep, besides, can be reared in situations unfitted for any other quadruped.

The sheep belongs, according to Cuvier, to the tribe *Capridæ*, and genus *Ovis*. After 5 months gestation the lamb is dropped, usually in this country in March or April ; and May and June are the *sheep-shearing* months, as the animal sheds the superfluous wool on the approach of warm weather. It lives naturally for about 15 years ; but from 1½ to 2 years is the common period at which it is fattened for food ; and even breeding stock are not usually kept beyond five or six years. Age is reckoned not from birth but from the first shearing. The male is called a *ram* or *tup* : after weaning he is said to be a *hog* or *hogget*, a *lamb-hog*, or *tup-hog* ; and if castrated, a *wether-hog*. After shearing, when fully one year old, he is a *shear-hog* or *shearling*, a *dinmont*, a *tup*, or *shearing-wether* ; and after the second shearing a *two-shear ram* or *tup*. The female is a *ewe* or *gimmer lamb* until weaned ; then a *gimmer* or *ewe hog* ; after being shorn a *shearing ewe* or *gimmer* ; after that a *two-shear ewe* ; and so on.

England has from a remote period been celebrated for her sheep,—on the numerous breeds of which many improvements have of late been effected, chiefly with the view of increasing the profitable return from the carcass ; as the wool has become generally longer, heavier, and coarser than formerly. Their numbers have likewise been increased by means of the artificial or turnip husbandry. British sheep are usually classed into *short-woolled* and *long-woolled* ; the leading and most improved breed of the former being the *South-Down*, chiefly occupying the hills of Sussex ; and of the latter, the new *Leicester*. The *South-Down* is well adapted for the chalky hills of the south, where this breed is chiefly diffused. Its fleece, short and fine, weighs from 3 to 4 lbs. ; and its mutton, fine in flavour and grain, weighs, in two-year old wethers, about 18 lbs. a-quarter. The *Leicester* is not adapted for poor soils, nor for travelling to seek its food : its fleece averages from 6 to 7 lbs. ; and its mutton, fat, fine in grain, and of superior flavour, weighs, in two-year old wethers, from 20 to 30 lbs. the quarter : on fair keep the *Leicester* will yield a greater quantity of meat for the same food than any other breed. Of other breeds, the chief short-wools are the *black-faced Scots*, the *Cheviots* (now generally reared instead of the former in Scotland), the *Dorset*, the *Hereford*, the *Wiltshire* ; and the chief long-wools, the *Teeswater*, the *Lincoln*, and the *Romney-Marsh*. But it would be difficult to select any district into which the *South-Downs* and *Leicesters* have not penetrated and materially improved the native breeds.

In many foreign countries the carcass of the sheep is disliked, or at least rarely eaten ; and the animal is tended almost solely for its fleece. In Spain, except by the poorest, mutton is considered unfit for food ; the wool, however, is of superior quality, particularly that of the *Merino* breed, which of late years has been successfully introduced into Germany, Australia, and elsewhere.

The commerce of sheep in Britain chiefly consists in fattening them up in the pastoral districts, and afterwards removing them to the towns for food. Immense quantities are carried from Ireland to Liverpool, and from the Midland Counties, Wales, Scotland, and other places to the metropolis. The number of sheep and

lambs sold annually at Smithfield is about 1,400,000, which is exclusive of large quantities of carcasses brought to London by steamers, railways, and otherwise. The fleeces are mostly purchased from the farmers by staplers or dealers at annual wool fairs. The number of sheep in this country is variously reckoned. Mr Luccock estimated the number in England and Wales in 1800 at 19,007,607, of which the greater part (14,854,299) were short-wooled; and, according to Mr Hubbard, the number of sheep had increased one-fifth between 1800 and 1828. The number at present, therefore, may be safely taken at 25,500,000, now chiefly long-wooled; to which adding one-third for Scotland and Ireland, makes the total of the United Kingdom, 34,000,000. Mr M'Queen, however, in his "Statistics of the British Empire" (p. 20), estimates the number of permanent stock at 48,000,000; their value at £60,000,000; and the quantity of wool annually produced at 246,700,000 lbs!

SHEKEL, an ancient Jewish weight and coin, estimated, the former at $\frac{1}{4}$ oz. avoirdupois, the latter at 2s. 7d. There were, however, several standards of the shekel, and various opinions are entertained respecting their values.

SHELLAC. [Lac.]

SHERBET, a favourite beverage in the East, made of water, lemon-juice, and sugar, with the addition of rose-water, or some other fragrant ingredient.

SHINGLES, a term applied in the lumber-trade of N. America and the W. Indies to thin boards, which are used in these countries for the same purpose as slates and tiles in Britain. They are from 18 to 30 inches long, 4 to 6 inches broad, and at one end $\frac{3}{4}$ ths of an inch thick, while at the other they are reduced to less than $\frac{1}{4}$ th of an inch. The roofs of buildings are shingled much in the same form as roofs are slated in Britain, and, when painted to correspond in colour, have very much the same appearance.

SHIP, a term applied generally to all decked vessels used in navigation; but by seamen only to those which have a fore, a main, and a mizzen-mast, with a top-mast and top-gallant mast to each, and in which the yards, in sailing before the wind, are braced square, the mizzen sail alone being usually in a fore and aft position. A barque has masts and sails like those of a ship, except that the mizzen-mast carries no top-sail or top-gallant sail. Each has a bowsprit, which carries a fore-stay-sail and a jib-sail. To other kinds different designations are given according to the number of their masts, the disposition of their sails, or their moving power,—as brig, snow, schooner, galliot, sloop, steamer, smack, and cutter, as explained under these heads. Ships are generally built of wood, but they are now sometimes made of iron. In the construction of a vessel the most essential conditions are—that it be capable of carrying its lading; that it be moved with great velocity, and readily obey the rudder; that it have the necessary stability, so as not to be overturned; and that its rolling or pitching be attended with as little strain as possible on the timbers. But the degree of attainment for each of these qualities—which in some respects are contrary to each other—will depend on the purpose, whether of war or commerce, for which the ship is built. In merchant-ships capacity is frequently of more importance than velocity; and in this case the relations between the length, breadth, and depth depend less upon hydrodynamical principles than in men-of-war. Upon these and other points relating to naval architecture, however, we must refer to the works cited below.

GLOSSARY OF NAUTICAL TERMS.

Aback, the position of the sails when blown flat against the mast.

Abaft or *Aft*, towards the hinder part.

A-beam, perpendicular to the ship's length.

Aboard, within the ship; also said of one when foul of another.

Adrift, not fastened.

Amain, to yield, or to let go.

Amidships, the middle of the ship.

Athwart or *Thwart*, across.

Back-Stays, ropes from the top-mast heads to the ship-sides in aid of the shrouds.

Beams, the timber supports stretching across the ship; whence *beam* expresses the width of a vessel; and a ship lying on her side is said to be on her *beam-ends*.

Bends or *Wales*, the ship's side planks, from the water upwards.

Bight, part of a rope between the ends; also a shallow hollow in a line of coast.

Bi'ge, the flat part of a ship's bottom.

Bilged, having the bottom stove in.

Bilge-water, that collected by leakage, &c.

Binnacle, the case of the steering compass.

Block, the case of the sheave of a pulley; two or more constitute a *tackle*.

Bobstays, strong ropes sustaining the bowsprit.

Boom, a pole stretching out the bottoms of particular sails.

Bower anchors, those at the bows.

Bows, the two fore extremities of a ship.

Bowsprit, a sloping mast at the bows.

Box hauling, bringing a ship when close-hauled round upon the other tack when she cannot tack or wear.

Boxing off, backing the head-sails to force the ship's head rapidly off the wind.

Boxing the compass, repeating the points in order.

Brace, a rope at the extremity of the yard to traverse the sails when necessary.

Breaming, cleaning the ship's bottom by fire.

Bulkhead, any partition in a ship.

Bumboat, the boat of a provision dealer, &c.

the tonnage of a ship.
 the rope or chain holding the anchor.
 to turn over; also the support of a bulk-
 head.
 a cylinder on which a rope is coiled
 ends of lever bars.
 to turn, turning a ship to repair her bottom.
 the bow timber to which the bower
 is fastened.
 to stuff the ship's seams with oakum.
 the outside platforms extending the
 deck.
 to make, tacks close down, sheets aft, yards
 set sharp up, and bowlines hauled; the
 progressing as near the direction of the
 as possible.
 the covering over a ship's staircase.
 the lower square-sails.
 when by ill construction, ballasting, or
 weight, a ship cannot carry sail without
 risk of upsetting.
 the loops.
 a spar used in managing the anchor.
 the ends, a kind of blocks fastening the shrouds
 to the chains.
 the cabin window-shutters.
 the stern, that which closes behind the stern.
 the quarters, a tackle used at the outer quarters of
 the main yard, &c.
 the water depth of the ship.
 the angle of a ship's motion with the
 horizon when driven by wind and waves,
 not governed by the helm.
 the loose material used in stowage.
 sailing without jerking or straining.
 to push off to avoid contact.
 the part of the anchor which holds.
 the aft, in the direction of the ship.
 the fore, the upper deck near the head.
 the keel, the fore extremity of the keel.
 the crew, the place allotted to the crew in mer-
 chant ships.
 the sail, passing it under a leak.
 the contrary wind; also uneven ground.
 to haul up a sail to the yard.
 the timbers between those of the floor
 and the top.
 the upper yard of fore and aft sails.
 the galley, the kitchen of a ship.
 the gage, a narrow passage.
 the cord by which furled sails are bound.
 the gaff, a small anchor for a boat.
 the fore part of a ship.
 the gun, the upper part of the ship's side below
 the gun-deck.
 the gaffs, ropes for hoisting yards, sails, &c.
 the gaff, the lever of the capstan or windlass.
 the rings upon which sails traverse, &c.
 the hatchway, the covering of a hatchway.
 the opening, the opening of the ship's hold.
 to haul upon a rope directly.
 the wind, bringing the ship to sail close
 to the wind.
 the bows, the part of the bows close to the cable.
 the cable, a large rope, or small cable.
 the fore extremity of a ship.
 to employ force to move weights, &c.
 the after extremity of the keel.
 the mechanism of the steering. Helm
 board, is to move the tiller to the right;
 to the left; up, to the weather side;
 down, to the lee side.
 the inside of the ship's bottom.
 the thing when close in its place.
 the foot-rope to support the seamen while
 they are over a yard.
 the old ship unfit for service.
 the main body of the ship.
 the flag used in making signals.
 to squeeze tight; the opposite is to
 loosen.

Jeers, strong tackle for raising, or *swaying up*,
 the lower yards.
Jib, the sail between the fore-top-mast and
 bowsprit end.
Keel, the timber first laid in shipbuilding; the
false keel is that added for defence, and mak-
 ing the ship hold better.
Kelson, a timber laid withinside across all the
 timbers over the keel, and forming its interior
 counterpart.
Knee, a bent timber for receiving another.
Land-locked, water apparently surrounded by
 land.
Lanyard, certain fixed or temporary lashings.
Leeboard, the left side looking forward.
Lateen sail, a triangular sail, with a long inclined
 yard.
Launch, the largest boat of a man-of-war.
Lee, *Leeboard*, the side not directly exposed to
 the wind.
Leeches, the sides of the sails; but the weather
 or side edge of any but a square sail is called
 the *luff*, and the other edge the *after lee*.
Lee-way, the deviation of the actual course from
 that steered.
Life line, a safety rope hung out.
Lifts, the ropes supporting yard-ends.
Lug-sail, a four-sided sail bent to a yard slung
 about one-fourth from the lower end.
Lying to, the state of a ship when the sails are
 so disposed as to counteract each other.
Marlinespike, a spike for opening strands of
 rope.
Martingale, the rope leading down from the
 jib-boom end.
Mast, the upright series of timbers supporting
 the sail-yards; of which in large ships there
 are three—the *main-mast*, *fore-mast*, and
mizzen-mast, each consisting of *lower*, *top*, and
top-gallant masts, and sometimes a *royal*.
Messenger, the hawser wound round the capstan.
Midships, the ship's middle as to length or
 breadth.
Nippers, ropes attaching the messenger to the
 cable.
Nothing, the difference of latitude made in
 sailing northwards.
Offing, a deep part of the sea at a distance from
 the shore.
Orlop-deck, in a man of war, is the lowest, on
 which cables, &c., are stowed; the fore and
 after parts are called *cockpits*.
Painter, the rope fastening a boat, &c.
Poop, a high partial deck close aft.
Port, the opening for a gun.
Quarter, the after part of a ship's side.
Quarterdeck, the portion of the uppermost
 deck between the main and mizzen masts.
Rake to, is to incline. *To rake a ship*, is to fire
 into her in the direction of her length.
Reef, to lessen the sails; also a chain of rocks
 near the surface of the sea.
Reeve, putting a rope through a hole.
Rig, the peculiar manner of rigging.
Rolling, the lateral oscillation of a vessel.
Royal, the sail above the top-gallant-sail.
Rudder, the flat piece of wood hung on the stern-
 post for the purpose of steering.
Sagging to leeward, making considerable lee-
 way.
Sails, the sheets by the action of the wind on
 which the vessel is moved. They are vari-
 ously designated, but generally from the mast,
 yard, or stay upon which they are stretched.
 The upper two corners are *earings*, the lower
clues.
Scupper, a hole in the deck or side to carry off
 water.
Scuttle, an opening in the ship's side or deck.
Sea, a single wave; also general agitation.
Seams, the spaces between the edges of planks.

Shove, the curve of the line of the deck.
Shove back, a bulk fitted with sheers for masting ships, &c.
Shoveys, two spars raised vertically for masting.
Shovs, ropes for extending masts to the wind.
Shove anchor, the third of the four ship's anchors.
Shrouds, the ropes supporting a mast laterally.
Shy-sail, a small sail set above the royal.
Shys, clothes and bedding supplied to the seamen at their expense.
Spreader, the gaff sail on the mizzen-mast.
Spy-sail, a four-cornered fore-and-aft sail.
Starboard, the right side looking forward.
Stay, a rope leading forward in support of the mast. *In stays*, the act of tacking. To *miss stays*, to fail in attempting to tack.
Steady-ropes, narrow sails set at the outer edge of the square sails.
Stow, a bundle of old yarns swung to dry the decks.
Tack, the weather clew of a course, &c. The *starboard tack* is when a ship, close hauled, has the wind on the starboard side; the *larboard tack* is when the wind is on the larboard side. To *tack* is to change from one to the other by turning the ship with her head to the wind.
Tackle, a pulley composed of several blocks.
Tuf-rail, the uppermost rail of the stern.
Tunk, a square water-cistern of sheet iron.
Tarpauling, a tarred or painted canvass cover.
Tiller, the turning bar of the rudder.
Timbers, the upright pieces of a ship's frame.
Top, a platform near the lower mast head.
Topping lift, a rope for raising a yard end.

SHIPPING. The most important branches of the Law of Shipping will be found discussed under various sub-heads as follows:—

The arrangements it is necessary to adopt and adhere to, in terms of the Navigation Laws, for securing the privileges of a British vessel—under the head **NAVIGATION**.

The registering of vessels, and the collateral operations in regard to the property and transfer of shares, dictated by the Registry Act—under the head **REGISTRY**.

The regulations for the enforcement of the Revenue Laws—under the heads **CUSTOMS** and **SMUGGLING**.

The arrangements appointed by statute for adjusting the mutual rights of the mariners and their employers—under the head **SEAMEN**.

The rights and obligations of the shipmaster—under the heads **MASTER** and **BARRATRY**.

The Law of Insurance—under the head **INSURANCE, MARINE**.

The law regarding contracts connected with the employment of vessels—under the heads **BILL OF LADING, CHARTER-PARTY, DEMURRAGE, and FREIGHT**.

The law regarding securities over the ship or cargo—under the heads **BOTTOMRY** and **RESPONDENTIA**.

Almost the only subject that remains for special consideration is the responsibility of shipowners for goods committed to their charge, independently of special contract. It is the duty of the owners to have their vessel, both in hull and rigging, suited for the voyage, and for the safe keeping of the species of cargo contracted for or received on board. There must be a competent master and a sufficient crew of able seamen. The ship must have on board whatever papers are necessary for her protection and that of her cargo, whether required by the laws of the country she belongs to, or by those of the port of destination, or dictated by international law. There must be no false or fraudulent papers, which may subject the ship to capture or detention. The mercantile customs of the port must be adhered to in regard to the employment of wharfingers, lightermen, &c. in lading. The owners are responsible for theft or robbery committed before breaking ground. The master previous to sailing must make the necessary clearances at the Customhouse, and pay all the usual charges. When the preliminaries are completed, the master must sail without delay when the weather is favourable, but not till then. Where sailing with convoy is stipulated for or required by law, the sanction must be obeyed in terms of the law on that subject. [Convoy.] A pilot must be employed in those roads, rivers, and narrow seas where such a precaution is enjoined,

Trawler, a ring which slides along a rope.
Tremalls, wooden bolts securing the ship's planks.

Truss, a rope confining a lower yard.

Trysail, a small gaff sail of storm canvass.

Turr, to give the ship more scope of cable.

Waist, in a man of war, the part of the gun-deck between the fore and main masts.

Water, the track which a ship leaves in the water.

Warp, a rope laid out for the purpose of moving a ship.

Watch, the portion of the crew on duty.

Water-legged, loss of buoyancy by leakages, &c.

Way, progress.

Wear, placing a vessel on the other tack by turning her round, with her stern to the wind.

Weather, the side on which the wind blows. To *weather*, to pass to windward.

Weather gauge, is said of a ship to windward of another.

Wheel, that by which the tiller is moved.

Whip, a rope passed through a single block.

Windward, the side directly exposed to the wind.

Wings, passages between the fore and after cockpit.

Yard, the beam on which a sail is extended.

Yard-arm, the extremity of the yard.

Yew, temporary deviation from a direct course.

Windlass, a horizontal modification of the wheel and axle, used in small ships instead of a capstan.

[Further information will be found in *Carron's Marine Architecture*, *Darcy Lee's Seaman'ship*, *Falconer's Nautical Dictionary*, *Encyclopædia Britannica*, and the *Penny Cyclopædia*; also *Brande's Dictionary of Science*.]

ally increased under her successors, particularly Charles II. and James II.,—the shipping cleared outwards under the national flag having, it is supposed, doubled in amount between the Restoration, 1660, and the Revolution, 1688.

In 1701, according to Customs Returns (*Macpherson's Annals of Commerce*, vol. ii. p. 719), there belonged to English ports (chiefly London, Bristol, and Yarmouth) 3281 vessels, estimated to measure 261,222 tons, and carrying 27,196 men. The shipping is supposed to have been doubled between 1701 and 1760; after which its increase became quite extraordinary. In 1800 (*Id.* vol. iv. p. 535), it amounted in England to 1,466,632 tons; Scotland, 161,511; Ireland, 54,263; Channel Isles, 16,110; and Colonies, 157,364 tons: total, 1,855,879 tons, employing 138,721 men.

The importance of the commercial marine as a nursery for seamen to man the national fleet was early seen and acknowledged. And by the famous Navigation Act, 1651, a complete monopoly of the carrying trade of Britain was secured to her merchantmen. Under NAVIGATION LAWS, an account is given of the history and present state of that monopoly, which was rigorously maintained upwards of 150 years—down indeed to our own time—when the retaliatory policy of the United States and Prussia led to several important relaxations; the principal being the *Reciprocity System* of Mr Huskisson, which was introduced in the year 1823.

The introduction of the reciprocity system having been followed by a depreciation in the value of shipping property, violent attacks were made upon Mr Huskisson's policy by the shipowners,—a numerous, wealthy, and influential body,—who, acting in concert, have always been able to command a speedy attention to their representations. It is now, however, very generally admitted that the depression which then took place is fairly attributable to other causes. Ships became cheaper because they could be built cheaper, arising from a great fall in the price of their materials,—wood, iron, copper, and hemp,—while improvements took place, which enabled the old work to be done with fewer hands than before. These circumstances, with perhaps some overtrading in 1824 and 1825, are now held sufficiently to account for all the real depression of the shipping interest which occurred. But the most triumphant vindication of Mr Huskisson's policy is to be found in the facts, that the number and tonnage of vessels built since the change have been greater than at any preceding period; the registered shipping having increased from 2,519,044 tons in 1822 to 3,512,480 tons in 1842, or about 40 per cent.; and the amount of British shipping cleared outwards for foreign countries and colonies, from 1,539,260 tons in 1822, to 3,429,279 tons in 1841—an augmentation of 122 per cent. The increase of foreign shipping cleared outwards in the same 20 years was from 457,542 to 1,336,892 tons.

Nor is the constant progress of British shipping less conspicuous when viewed in comparison with that of other countries. For example, in the trade with the United States—our chief maritime rival—a continually increasing proportion of our tonnage has of late years been employed. Between 1821 and 1836, the British shipping which entered the ports of the republic increased from 55,188 tons to 529,922 tons, or 860 per cent.; while the increase in the American shipping, employed in the foreign trade of the States, was, in the same period, not more than from 765,098 tons to 1,352,653 tons, or 77 per cent. And as regards Prussia, to which our shipowners looked with the greatest apprehension, her mercantile navy has been most strikingly diminished in amount since the commencement of our reciprocity agreement with her. It likewise appears (*Porter's Progress of the Nation*, § 3, ch. 10), that the proportion of foreign to national shipping, employed in the import and export trade of the United Kingdom, is smaller than in any other state of the least importance,—the proportion in 1835, 10 years after the reciprocity system came into operation, being only 28 per cent.; while in the United States it was 32 per cent.; in France, 60 per cent.; in Russia, 78 per cent.; at Danzig, 35 per cent.; and in Sweden (in 1834), 53 per cent.

Shipbuilding in the United Kingdom is prosecuted chiefly in London, Newcastle, Sunderland, Hull, Liverpool, and the ports on the Clyde; which last are especially celebrated for their steam-vessels. It is also carried on extensively in New Brunswick and other parts of British America. The cost of new ships, including outfit, averages from about £10 to £12 per ton; though the slop-built ships of New Brunswick cost little more than £6 per ton. And it appears from a table compiled by Captain Parry, from the estimates of 30 different authorities, and introduced by him in his Report on the Caledonian Canal (*Par. Paper*, 1842, No. 74, p. 81), that the average cost of one day's wages, victuals, and wear and tear for vessels of various sizes, from 60 to 400 tons, is nearly as follows:—

60 tons.	100 tons.	150 tons.	200 tons.	250 tons.	300 tons.	350 tons.	400 tons.
£1:1:8	£1:11:4½	£2:2:5	£2:14:3½	£3:5:2	£3:18:11½	£4:10:5½	£5:4:4

Interest Shipping of the British Empire, as on 31st December 1840 and 1841; and Ships Built in the Years ended 5th January 1841 and 1842, respectively.

	Ships Registered.						Ships Built.			
	1840.			1841.			1840.		1841.	
	Vessels.	Tonn.	Men.	Vessels.	Tonn.	Men.	Vessels.	Tonn.	Vessels.	Tonn.
land.....	16,535	2,111,049	120,164	17,089	2,223,940	124,485	1065	165,839	816	111,830
land.....	3,479	439,204	28,428	3,542	469,879	30,287	263	42,322	245	43,318
land.....	1,989	183,854	11,587	2,016	193,807	12,345	42	3,115	51	4,430
my, Man, &c.	671	44,155	5,018	714	48,773	5,224	78	8,775	81	8,731
land.....	6,308	543,276	35,813	6,561	577,081	37,837	771	143,288	549	114,605
Totals.	26,990	3,311,538	201,340	30,059	3,512,480	210,196	2219	365,332	1741	282,214

part of the Tonnage of Shipping Registered at each of the principal Ports of the United Kingdom, including the Channel Islands, on December 31, 1841.

	Sailing Vessels.		Steam Vessels.		Sailing Vessels.		Steam Vessels.
	Under 50 Tonn.	Above 50 Tonn.			Under 50 Tonn.	Above 50 Tonn.	
England.				Scotland.			
Aberdeen.....	19,155	563,295	37,257	Aberdeen.....	1,963	49,339	3,152
Aberdeen.....	9,540	17,308	44	Aberdeen.....	965	17,382	450
Aberdeen.....	2,940	37,557	2,738	Dumfries.....	4,642	6,603	306
Aberdeen.....	4,574	24,171	17	Dumfries.....	2,309	42,267	1,816
Aberdeen.....	1,637	15,637	17	Dumfries.....	1,894	81,599	10,298
Aberdeen.....	6,344	5,732	-	Dumfries.....	3,007	83,139	180
Aberdeen.....	7,855	14,591	135	Dumfries.....	3,125	6,885	18
Aberdeen.....	6,261	65,173	2,758	Dumfries.....	811	14,053	56
Aberdeen.....	1,622	19,116	266	Dumfries.....	3,019	6,727	207
Aberdeen.....	4,154	302,730	5,563	Dumfries.....	3,113	21,468	1,553
Aberdeen.....	358	17,156	-	Dumfries.....	1,362	22,854	101
Aberdeen.....	3,235	259,184	2,560	Dumfries.....	526	9,067	19
Aberdeen.....	7,859	21,009	298	Dumfries.....	910	12,045	347
Aberdeen.....	1,188	12,155	-	Dumfries.....			
Aberdeen.....	3,512	9,422	167	Dumfries.....			
Aberdeen.....	7,504	8,919	50	Dumfries.....			
Aberdeen.....	1,289	31,010	-	Dumfries.....			
Aberdeen.....	736	53,353	427	Dumfries.....			
Aberdeen.....	1,627	178,252	433	Dumfries.....			
Aberdeen.....	1,207	47,837	67	Dumfries.....			
Aberdeen.....	1,576	68,990	337	Dumfries.....			
Aberdeen.....	10,043	34,320	451	Dumfries.....			
				Ireland.			
				Belfast.....	4,120	44,236	1,222
				Belfast.....	3,631	39,585	217
				Belfast.....	7,153	12,337	10,815
				Belfast.....	1,285	12,613	-
				Belfast.....	4,715	5,637	203
				Belfast.....	1,250	16,310	960
				Belfast.....	2,896	23,155	117
				Belfast.....	541	14,755	-

ount of the Tonnage of Shipping entering Inwards and Outwards at the principal Ports of the United Kingdom in the Year 1841.

	Coastwise.				Colonial.		Foreign Trade.			
	Sailing Vessels.		Steam Vessels.		Inwards.	Outwards.	Inwards.		Outwards.	
	Inwards.	Outwards.	Inwards.	Outwards.			British.	Foreign.	British.	Foreign.
Aberdeen.....	2,788,030	777,930	304,683	303,640	474,531	422,809	524,628	317,648	349,577	291,852
Aberdeen.....	456,544	385,709	565,289	524,317	376,850	382,104	205,779	337,888	296,026	350,764
Aberdeen.....	169,813	117,711	141,063	139,812	45,615	45,047	20,800	8,564	16,544	6,619
Aberdeen.....	239,435	1,950,514	30,981	29,530	25,316	72,942	160,295	113,366	346,212	175,043
Aberdeen.....	72,107	70,074	112,842	114,309	45,529	35,134	177,765	119,039	125,847	95,040
Aberdeen.....	171,060	178,285	9,935	10,612	-	-	2,344	3,643	5,100	3,422
Aberdeen.....	61,545	1,014,918	8,942	5,673	8,855	4,684	35,271	17,554	75,900	44,614
Aberdeen.....	67,865	658,820	4,837	5,111	11,756	22,910	137,193	29,440	216,771	63,003
Aberdeen.....	39,944	348,520	22,180	28,986	22,621	24,799	724	268	3,172	67
Aberdeen.....	76,952	471,313	79	-	5,510	8,404	6,554	4,430	22,544	20,807
Aberdeen.....	131,817	67,774	115,063	26,592	20,790	27,230	14,690	11,155	6,935	11,890
Aberdeen.....	213,943	370,437	26,288	26,288	8,480	6,494	32,344	7,914	33,173	8,217
Aberdeen.....	172,760	195,343	223,820	231,204	15,779	47,066	24,576	7,974	33,530	2,456
Aberdeen.....	78,254	25,360	62,348	-	77,755	70,440	10,803	2,035	16,556	2,180
Aberdeen.....	8,146	4,392	1,927	4,022	29,264	24,373	1,256	441	1,612	441
Aberdeen.....	149,799	112,062	131,045	179,163	15,794	14,833	36,754	49,822	15,419	17,224
Aberdeen.....	133,641	59,789	31,246	31,309	6,126	6,153	34,809	15,516	35,147	6,231
Aberdeen.....	136,874	65,296	49,112	61,392	9,622	15,690	9,147	6,270	12,784	4,623
Aberdeen.....	335,343	196,209	184,233	223,607	30,078	16,626	10,971	8,339	3,968	8,201
Aberdeen.....	163,810	100,840	65,420	65,521	22,304	21,484	8,102	2,338	3,994	1,942
Aberdeen.....	106,871	59,682	140,719	144,806	21,751	18,302	10,385	4,656	10,370	4,247

* This return was incomplete at the date when the account was closed.

TOTALS IN 1841.				England.	Scotland.	Ireland.	Total.
Coastwise....	{	Sailing vessels	Inwards . . .	7,305,874	1,119,864	1,211,540	9,637,300
			Outwards . . .	8,265,841	1,157,610	637,801	10,061,332
	{	Steam vessels.	Inwards . . .	1,687,013	645,707	571,064	2,903,784
			Outwards . . .	1,539,311	552,907	635,938	2,748,156
Colonial.		Inwards	1,202,004	181,011	138,471	1,521,486	
		Outwards	1,180,434	214,673	114,562	1,509,669	
Foreign.....	{	Inwards	British. . .	1,654,810	146,440	38,500	1,839,750
			Foreign.....	1,180,653	110,732	26,441	1,317,826
	{	Outwards. . .	British. . .	1,703,071	189,354	34,165	1,926,590
			Foreign . .	1,215,870	93,484	90,853	1,399,807

Tonnage of Vessels employed in the Foreign and Colonial Trade of the United Kingdom (including their repeated Voyages), separating British from Foreign Vessels, and distinguishing the Trade with each Country, in 1840 and 1841.

	1840.				1841.			
	Inwards.		Outwards.		Inwards.		Outwards.	
	British.	Foreign.	British.	Foreign.	British.	Foreign.	British.	Foreign.
Russia	340,867	79,152	225,581	58,861	294,227	75,616	106,894	50,143
Sweden	11,533	53,337	11,760	39,660	13,170	46,735	17,643	35,074
Norway	3,166	114,241	1,732	114,662	877	113,025	2,849	101,321
Denmark	6,327	103,067	98,634	207,119	5,308	83,000	82,190	123,020
Prussia	112,709	237,984	73,943	177,449	89,198	210,264	73,497	165,762
Germany	165,829	20,536	173,110	62,271	188,979	110,340	191,704	91,245
Holland	212,603	69,770	217,665	65,342	212,782	67,246	207,667	61,230
Belgium.	57,874	48,966	49,457	46,541	60,835	54,241	63,938	40,894
France	323,353	181,497	365,842	179,882	387,934	194,230	434,036	184,400
Portugal, Azores, &c.	41,108	9,767	68,230	30,869	61,161	9,665	61,102	23,201
Spain, Canaries, &c.	20,649	5,869	48,391	14,270	45,506	5,560	54,437	16,330
Gibraltar	23,099	...	44,365	1,065	23,314	...	46,063	344
Italy & Italian Islands	83,576	21,005	63,821	14,043	69,342	12,335	77,595	19,700
Malta & Ionian Isles	10,962	...	42,206	1,035	16,315	...	54,806	5,421
Turkey & Greece	28,005	1,000	30,530	2,602	27,483	187	55,336	1,045
Africa and African Islands	82,528	691	102,306	4,172	111,143	912	129,816	4,200
India, Ceylon, Singapore, &c.	137,883	...	178,834	370	207,075	...	215,421	...
China	20,056	...	2,942	1,082	23,344	...	13,730	1,201
Other parts of Asia	12,316	1,304	11,716	1,762	14,910	855	13,227	2,006
Australasia	25,903	...	115,119	218	29,868	...	125,610	...
British America.	808,222	...	604,084	2,213	841,348	...	652,723	364
— W. Indies	181,711	...	222,630	197	174,975	...	211,506	...
Foreign W. Indies	41,174	6,881	30,460	19,646	42,059	2,880	62,461	13,383
United States	130,201	426,067	180,041	409,900	191,777	294,170	160,597	313,200
Mexico and South America	70,533	8,010	90,984	12,980	119,827	5,895	86,714	9,755
Whale Fisheries	14,296	...	15,276	...	13,008	...	10,578	...
Jersey, Man, &c.	163,450	2,182	124,278	24	160,901	3,337	132,820	...
Total	3,147,501	1,460,294	3,222,964	1,488,688	3,361,211	1,291,165	3,429,279	1,330,000

Further information respecting British shipping will be found under LLOYD'S, BRITISH NAVIGATION, TONNAGE, and in the articles referred to on page 610; and respecting the shipping of foreign countries under their respective heads.

SHIPSHUSBAND, the agent or commissioner for the owners. He may be a part-owner or a stranger. His powers are by mandate, commission, or verbal appointment; the latter chiefly where he is also part-owner. His duties are to arrange every thing for the outfit and good order of the ship—stores, repairs, furnishings; to enter into contracts of affreightment; and to superintend her papers. His powers do not extend to the borrowing of money; but he may grant bills for furnishings, stores, repairs, and the necessary engagements binding on owners, although he may have received money wherewith to pay them. He may draw the freight; but is not entitled to take bills instead of it, giving up the lien by which it is secured. He cannot delegate his authority.

SHOE-TRADE. This trade, in which we include the manufacture of boots, is generally followed in all parts of the kingdom; but, though employing a greater number of persons than any of the other common handicrafts, it scarcely rises anywhere into importance except in London, Northampton, and Stafford, where the public contracts are chiefly executed, and supplies furnished for exportation. In these places a considerable division of labour has been introduced into the trade.

no fewer than twenty distinct branches being distinguished. This is particularly the case in what is called the *men's line*.

Shoes and boots, as articles of export, occur principally in the colonial trade ; but being included in the customs accounts under the general head of " leather wrought and unwrought," the amount shipped cannot be stated. They also occur as imports in our trade with France, especially light shoes for females, and men's boots ; the latter are of neat workmanship, and are said to be in other respects of good quality. This trade will probably increase ; as, in the new tariff (1842), the import duties on boots and shoes, formerly about 30 per cent., have been reduced fully one-half. Before this reduction, the imports from France amounted to about 30,000 pairs per annum.

We possess few data for determining the value of the boot and shoe trade in the United Kingdom ; but the annual consumption, estimating the average expenditure of each individual of our population of 27,000,000, at the moderate rate of 10s., will amount to £13,500,000.

SHOP (Fr. *Boutique*. It. *Loja*), a place for the sale of commodities by retail. Shops are now, generally speaking, arranged indiscriminately ; but the old custom, and one probably coeval with the existence of cities, was to appropriate particular streets to particular trades ; and some relics of this usage still remain in London. Paternoster Row continues to be much occupied by booksellers ; Lombard Street, by bankers ; Long Acre, by coachmakers ; and Cranbourne Alley, by straw-hat-makers ; while Holywell and Monmouth Streets still uphold their ancient reputation for old clothes, and Broker's Alley is crowded by dealers in second-hand furniture. In London, the number of shops is estimated at about 40,000. Many of these, as well as in the provincial cities, attract attention by a gorgeous display of wares in plate-glass windows, comprising almost their entire front, while their interior is frequently lined with mirrors. Every sort of device, in short, is used to attract notice and custom. In 1785, a tax was imposed on shops in Britain, but it was abolished in 1789.

In America, instead of shops, unostentatious warehouses, called stores, are commonly used by retailers ; and in the East, this class, as well as the common handicrafts, are generally arranged, in each city, in a place exclusively appropriated to them, called a **BAZAAR**.

SHRIMP (*Crangon vulgaris*), a crustaceous fish, common on the shores of England, and brought in large quantities to Billingsgate, chiefly from Gravesend, Lynn, Boston, Leigh, and Isle of Wight. Shrimps are boiled before being carried to market ; they are in season during the whole year, though the chief demand is in spring. Those of Pegwell Bay are preferred ; and the preparers of potted shrimps profess to make use of them only.

SHROFF, SHROFFAGE. *Shroff*, in Indian commerce, means a banker or money-changer. *Shroffage* is the examination of coins, and separation of the good from the debased. [INDIA.]

SHRUB, a compound liquor, made of spirit, acid fruit, and sugar.

SIAM, a state in the peninsula of India, bounded N. by China ; E. by Annam ; S. by Gulf of Siam ; and W. by Birmah. Area, 190,000 sq. miles. Population, 3,000,000. It comprises Siam Proper, part of Laos and Cambodia, and certain tributary Malay states. Capital, Bangkok, a flourishing port on the Menam, in lat. 13° 58' N., and long. 100° 34' E., about 20 miles from the sea ; pop. 90,000 ; about 4-5ths are Chinese. Government, a despotic monarchy : the king is nominally a vassal of China.

The kingdom is generally mountainous. The fertile part is composed chiefly of the valley of the Menam, a large river which descends from the heart of Thibet, and at certain seasons overflows and inundates a considerable portion of the country. Of the climate little is known beyond Bangkok, which is represented by Mr Crawford as being far from unhealthy. Mines exist in different places, but they are yet almost unexplored. Tin, copper, lead, zinc, antimony, with small quantities of gold, are found ; but the metal which occurs in greatest relative abundance is iron, particularly on the Menam. The vegetable productions differ in no essential respect from those of other Indian countries. The district within the tract of inundation is admirably suited for rice ; and, excepting Bengal, the quantity exported is greater than from any country in Asia.

The inland and coasting trades are considerable. The former is principally conducted on the Menam and its branches in flat boats and bamboo rafts ; but a large portion is likewise carried on by means of elephants, which are generally used for land carriage. The latter embraces a considerable traffic with the countries on the shores of the Straits of Malacca and Bay of Bengal, by which channels are imported opium, cotton goods, and other commodities. The maritime commerce with foreign countries is almost wholly concentrated at Bangkok, which, after Canton, is the greatest shipping port in Asia not settled by Europeans. The most important branch is that with China ; the staple exports consisting of black pepper, sugar, stick lac, sapan wood, cardamoms, cotton-wool, eagle-wood, rice, hides, gamboge, and wood for furniture ; and the imports, of coarse china-ware, teas, and raw and wrought silks, with a quantity of Chinese silver in ingots : in this trade are

employed about 35,000 tons of junks, which arrive in January and February, and leave in June and July. Considerable intercourse exists also with the ports of Cambodia and Cochin China; but the most extensive branch, after that with China, is conducted with Singapore, Malacca, Penang, Batavia, and other places in the Malayan Archipelago. In this trade the staple exports of Siam are sugar, salt, oil, and rice; to which may be added the minor articles of stick lac, iron pans, coarse earthenware, and lard. The returns are British and Indian piece-goods, opium, with a little glass-ware, and some British woollens from the European settlements, with commodities suited for the Chinese markets, such as pepper, tin, dragon's blood, rattans, béchas-de-mer, swallows' nests, and Malayan camphor from the native ports. This trade is carried on almost entirely by means of junks, and has greatly increased of late years.

Almost every kind of merchandise, except sugar and pepper, is the subject of royal monopoly; and the Chinese are the only foreigners whose trade is upon a liberal footing. In 1822, Mr Crawford, as representing our Indian government, effected a commercial treaty with the King of Siam; after which, several British merchants attempted to settle in Bangkok, but without success. The Americans also obtained a treaty in 1836.

Measures and Weights.—The fathom of 4 cubits, or 8 spans, = $6\frac{1}{2}$ feet; 20 fathoms = 1 sen; and 100 sen = 1 yuta. The sen is also a square measure of 20 fathoms to the side. The ordinary measure is the catty = $2\frac{1}{2}$ lbs. avoirdupois, being double the Chinese catty. The pecul contains 50 catties, and is thus equal to the Chinese. In weighing rice and salt a large measure is used, consisting of 22 peculs to the former and 25 to the latter: rice is also measured by the basket, 100 of which are equivalent to the large measure above mentioned.

Money.—The circulating medium is stated by Mr Crawford (*Embassy to Siam, &c.*), to consist only of silver and cowrie shells. The general coin is the bat or tical of 4 salungs, 8 fuangs, 16 song-p'hais, 32 p'hai-nungs, or 6400 cowries. The tical weighs 236 troy grains, and is commonly valued at 2s. 6d. sterling; but its standard is uncertain. The catty of 80 ticals, and the pecul of 100 catties, are used only to denote large sums.

SICCA, a weight for gold and silver in India = 179 $\frac{1}{2}$ troy grains.

This was the weight of the ancient standard rupee of Hindostan, while the Mogul emperor was the sole sovereign, and which was thence denominated the *sicca rupee*. In course of time this standard, though professed to be followed, was gradually altered by the powers established in different parts of India; some being lighter, and others, as the Calcutta sicca rupee (weighing 191.916 grains, of which 175.921 pure), heavier than the Mogul money. To remedy the confusion thence arising, an ideal standard, called the *current rupee*, was introduced, to which all others were to be compared before they were entered into accounts. 116 current rupees = 100 Calcutta sicca rupees. The East India Company's rupee, now the general standard, weighs 180 troy grains, or 1 *tolā*, which is also the basis of the new system of weights. [INDIA.]

SICILY, the largest and most fertile island of the Mediterranean, forms, with the Neapolitan territory, from the south extremity of which it is separated by the Strait of Messina, the United Kingdom of the Two Sicilies. Area, 10,508 sq. miles. Population in 1842, about 2,100,000. The head of the political administration is a lieutenant-general, representing the king; but all important matters are referred to the Sicilian section of the council of state at Naples.

The island, triangular in form, is traversed along its N. side by a chain of mountains, which gives off several branches to the S.; besides which, there are several detached groups, including the celebrated Etna, in height 10,872 feet, near the E. coast. There are some extensive plains; but, generally speaking, the island consists of hill and valley,—the whole watered by numerous small rivers. The climate is salubrious and delightful, except during the sirocco, and in some low and marshy tracts.

The difference of elevation in Sicily, and its fertility and climate, naturally give great variety and excellence to its productions. Anciently it was styled the granary of Rome; but in modern times, sloth, ignorance, political dependence, and misgovernment, have brought its prosperity to a comparatively low ebb. Of late, however, some beneficial changes have taken place; in 1812 and 1838 laws were passed for the abolition of the feudal system, and the emancipation of the peasantry; restrictions which existed to the exportation of corn have been removed; and, more recently, funds have been raised for the formation of good roads.

The arable lands comprise 3,700,000 acres; vineyards, chiefly around Marsala, 115,000 do.; gardens, 260,000 do.; woods and olivegroves, the latter principally on the N. coast, 1,125,000 acres; the remainder of the island is mostly waste. Agriculture is in an exceedingly rude state; but the crops raised, principally wheat, barley, and potatoes, with hemp, flax, and cotton, are notwithstanding abundant, though affording at present little surplus for export. The rearing of live-stock occupies even less attention than tillage. The vintage, except in some English establishments at Marsala is an object of little care; and the olive-oil is also of low quality from the same cause. The culture of sumach, however, is more attended to; and the fruits, especially oranges and lemons, grow luxuriantly. The chief other vegetable products are detailed in the list of exports. The only mineral product of importance is sulphur, which is abundant in the central and south districts. Manufactures are confined to a few establishments in the principal cities.

The exports mainly consist of raw produce. In 1839, the quantities and values of the principal articles were as follow:—Sumach, 238,082 cwts., £263,567; fruits, dry and preserved, 102,108 cwt., £163,175; oranges and lemons, 589,036 boxes, £119,737; wines and spirits, 4,421,537 gallons, £156,315; sulphur (greatly below the average, which is 700,000 cantars, owing to the existence of the French monopoly, since abolished), 542,384 cwts., £116,142; olive-oil, 692,579 gallons, £96,569; with considerable quantities of manna, linseed, silk, liquorice paste, rags, salt, barilla, argol, and other articles; the whole amounting to £1,350,493; of which Britain took £379,879 (below the usual amount, owing to the sulphur monopoly); United States, £393,723; and France, £198,168. The imports consist chiefly of sugar, coffee, and other colonials; cottons, yarn, and wool; woollens, silks, and linens; hides, hardware, earthenware, cod-fish, &c., which are mostly brought from America, England, France, and Genoa. In 1839, the im-

ports were valued officially at £568,998, but they may be more correctly estimated at £1,000,000; many commodities, especially sugar and other tropical products, being smuggled in consequence of the high customs and tonnage duties. The shipping amounted in 1838 to 2250 vessels, 43,000 tons; employing nearly 25,000 men. [SULPHUR.]

PORTS.—*Palermo*, the capital, is situated in a bay on the N. coast, in lat. 38° 8' N., long. 13° 22' E., in a fertile plain between two mountain ridges and the sea. Pop. 140,000. The harbour, which is at some distance, is formed by an artificial mole, which, however, does not protect it effectually. In 1838, according to Mr Macgregor's Report on Sicily, the imports amounted to £284,009; and the exports to £346,310.

Messina, the chief trading port, lies on the N. E. coast, opposite Calabria, in lat. 38° 11' N., long. 15° 34' E. Pop. 85,000. The town rises in the form of a crescent on the W. side of the harbour, which is one of the best in the Mediterranean. In 1838, the imports amounted to £294,811; and the exports to £368,492.

Alicata, Catania, Cefalu, Girgenti, Marsala, Mazara, Sciacca, Syracuse, Trapani, Terra Nova, and Termini, are the chief other ports.

MEASURES, MONEY, REVENUE, &c.

Measures and Weights.—The canna of 8 palmi or 96 inches = 81.35 Imp. inches; and 3 palmi = 1 braccio.

The salm of land = 5½ Imp. acres.

The tonna, wine measure, of 4 barilli, 8 quartucci, or 160 quartucci, = 31.24 Imp. gallons: the pipe is 12 barrelli, = 93.72 Imp. gallons.

The salma generale, corn measure, of 4 bisaccie, 16 tomoli, or 64 mondelli, = 11½ staja Leghorn measure, = 7.61 Imp. bushels; the salma grossa, similarly divided, = 14 staja, Leghorn measure, = 9.47 Imp. bushels.

The cantaro grosso of 100 rottoli grossi, each of 33 ounces, = 192.53 lbs. avoirdupois: the common cantar, or cantaro sottile, of 100 rottoli sottili, each of 30 ounces, = 175.03 lbs. avoirdupois; the pound of 12 ounces = 4901 troy grains; and 100 Sicilian lbs. of 12 ounces = 70.01 lbs. avoirdupois. The weight and fineness of the precious metals are expressed as in NAPLES.

The Sicilian ship ton = 5 Sicilian salmes = 94 cubic French feet (*pieds de Roi*).

N. B.—In Messina, oil is sold by the cassiso,

= 2.58 Imp. gallons, and reckoned by weight at 12½ rottoli grossi, or about 24 lbs. avoirdupois; in Palermo it is sold by the cantaro grosso.

Money.—Accounts are stated in oncie of 30 tari or 600 grani; also in ducats of 100 grani, each of 10 piccioli or cavalli, as in Naples. The oncia = 3 Neapolitan ducats (valued in gold), = 10s. 3½d. sterling; and 58 tari 6 grani = £1.

The Sicilian dollar or scudo of 2 florini, 12 tari, 24 carlini, 180 ponti, or 240 grani, is worth 3s. 11½d. sterling. The Sicilian tari and carlini are thus of only one-half the value of the same denominations in Naples.

Since 1818 the coinage of Sicily has been the same as that of Naples.

Bills on London are commonly drawn at 3 months' date. No days of grace are allowed.

The Revenue, derived principally from a land-tax of 12½ per cent., a tax of 13 taris 12 grains per salma on the grinding of corn, and customs and navigation dues, amounts annually to about £1,000,000, gross. [NAPLES.]

SIERRA LEONE. [NIGRITIA.]

SILK (Du. *Zyde*. Fr. *Soie*. Ger. *Seide*. It. *Seta*. Por. & Sp. *Seda*. Rus. *Schelk*), a soft shining filament, the product of several species of caterpillar, particularly the *Bombyx mori* or silkworm. This worm is about six or eight weeks in arriving at maturity, during which period it changes its skin four or five times; and ceases to feed for a short time previous to each change. When full grown it eats no more; but, choosing a convenient place, begins to discharge viscid pulpy twin filaments from the double orifice of its nose, with which it instinctively envelops itself as a defence against living enemies and a change of temperature; and it continues this operation till it has spun an oval case or ball, in which it remains as a chrysalis for about fifteen days, at the close of which it perforates the end of the silken ball, and comes out a winged moth, to deposit its eggs for a fresh generation, and very soon after to die. Those who cultivate the worm for silk do not suffer it to reach this last stage, because the silken fibre would be cut into small pieces, by the opening at which the moth escapes. When the whole quantity of silk is formed, they destroy the chrysalis by means of heat.

Silk occurs in various forms. *Cocoons*, *Knubs*, or *Husks*, are the balls as formed by the worm, about the size of a pigeon's egg, and of a golden-yellow colour. *Raw silk*, the state when simply wound off the cocoons into skeins or hanks, is in threads composed of several fibres, united by their natural gum. *Waste silk* is that part which is first wound off the cocoons in the operation of reeling; and such cocoons as being eaten through by the worm cannot be wound off by the reel, but are afterwards carded and spun; also of short ends arising from winding.

Raw silk, before it can be used in weaving, is made to take one of three forms: 1st, *Singles*, the most simple process, consists in merely twisting the double thread projected from the twin orifice in the nose of the insect, in order to give more firmness to its texture: 2d, *Tram*, formed by twisting together, not very closely, two or more threads of raw silk; and this description most commonly forms the weft or shoot of manufactured goods: 3d, *Organsine*, principally used in the warp, that is, to form the length of the web, is composed of two or more threads twisted separately, and afterwards combined together, the twist being then given in contrary directions. When thus prepared it is termed *thrown silk*.

The worms are fed with the leaves of the mulberry-tree; and they are reared

in a kind of nursery, called by the French a *magnanière*. Silk husbandry is extensively prosecuted in the south of Europe—in Italy, where the annual production is about 12,000,000 lbs., chiefly in the northern states, and in France; also in China, India, and Persia. It is likewise pursued on a smaller scale in many other countries possessing a soil and climate favourable to the growth of the mulberry. The Indian silk, produced from a worm and leaf peculiar to Bengal, is inferior to that of France, Italy, and China, all produced from the *Bombyx mori*, reared on the white mulberry.

About 5,000,000 lbs. raw, waste, and thrown silk are annually consumed in this country. It is imported chiefly from Bengal, and from Italy, either direct or through France; it is also brought in considerable quantities from China (where, next to tea, it is the great staple) and Turkey; and in smaller quantities from Holland, the United States, and other places. [SILK MANUFACTURE.]

SILK GUT, a hard, white, transparent thread, about a foot in length, made in China and Italy from the intestines of the silk worm, and used for angling.

SILK MANUFACTURE. This manufacture originated in China, from whence, according to the best credited accounts, it was carried to Constantinople by Persian missionaries in the reign of Justinian, A. D. 550. Its progress was at first slow, and for 600 years was confined to the Greek empire. In the 12th century, however, it was extended to Palermo in Sicily, and from thence by degrees into Italy, Spain, and eventually to France, in which it had effectually taken root prior to the reign of Francis I. Its early history in England is involved in obscurity; but the reign of Edward III. is commonly assigned as the period of its introduction into this country. It attained a certain extent in the 16th century, particularly in the days of Elizabeth, when a number of Flemish workmen settled in her dominions in consequence of the persecutions of the Duke of Alva; and a further stimulus was given to it in 1685, by the repeal of the Edict of Nantes, and the removal in consequence of a number of French Protestant weavers to England. Numerous laws were passed for the protection and encouragement of the manufacturers; and in 1765, the importation of foreign silks was strictly prohibited. This law gave to the English manufacturers a monopoly of the home market, from which, in the then imperfect condition of the trade, they would have been driven by foreign competition; but it did not secure to them prosperity. By withdrawing a powerful incentive to economize the processes, silks continued a high-priced luxury, accessible only to the wealthier classes, and of course liable to all the caprices of fashion; while the imposition of heavy taxes on the raw material, and the competition of the smuggler, tended farther to increase the evil. Under the combined influence of these causes the trade increased slowly; those who embarked in it were exposed to continued alternations of prosperity and distress; and down to 1824, the silk manufacture, notwithstanding all the protection it had received, could not be said to be firmly established. In that year, however, influenced by the suggestions of Mr Huskisson, a bold and enlightened policy was adopted by our government. The high duties of 4s. per lb. imposed upon raw silk, and of 14s. 8d. per lb. upon undyed thrown silk, were reduced; the former to 3d., and the latter to 7s. 6d. per lb.; and in 1829, to the rates of 1d. and 3s. 6d. respectively. The prohibitory act of 1765 was also repealed, and a scale of duties adopted (equivalent to 30 per cent. *ad valorem*), under which foreign manufactured silk goods might be imported after July 5, 1826. In the tariff of 1842, the duty on undyed thrown silk was farther reduced to 1s. the lb.; but no alteration was made on the rates on manufactures.

The consequence of Mr Huskisson's reductions was a great and sudden increase of the silk-trade. The manufacturers at first suffered severely from foreign competition; but this evil was partial and temporary. Stimulated by that rivalry, such improvements were effected in the quality of our fabrics as rendered them equal, and in some cases superior, to the most beautiful productions of other countries. At the same time, by the reduction of the cost of the raw material, and by conducting the several processes upon a scale, and according to principles, admitting of great economy, British silks have not only been placed within the reach of the humbler classes, but in other markets have been brought into successful competition with those of foreign production.

As this country is entirely dependent upon foreign states for the supply of the raw material, the quantity of goods made must be proportional to the unmanufactured silk imported. In the 10 years preceding 1824, the quantity of raw and thrown silk used amounted to 19,409,020 lbs., being an average of 1,940,902 lbs. per annum; and in the 12 years following the change of system, the quantity used was 49,973,331 lbs., or 4,164,444 lbs. per annum, being an increase over the average

of the former period of 114 per cent. (*Porter's Progress of the Nation*, § 2, ch. ii. p. 256.) It is further remarkable that, notwithstanding this increase, the importation of thrown silk has of late sensibly diminished. The spur of competition has led to the introduction of improved machinery into our throwing mills, the effect of which has been to lessen by more than one-half the cost of the process. Both branches of the manufacture have been thus prodigiously expanded; so that in every article of plain manufacture, and of what are called heavy goods, we have now little to apprehend from the free competition of our neighbours; while in regard to mixed goods, composed partly of worsted or cotton and silk, we stand without a rival. It is chiefly in light and fancy articles, the work on which is proportionally greater with reference to their value than where a larger quantity of material is used, that the competition of foreigners, owing to their cheaper rate of labour, is successful. The Lyonesse manufacturer is, besides, entitled to a preference for his fancy goods, as a reward for the superior taste and ingenuity displayed by him in the invention of patterns and the combination of colours. This superiority is owing chiefly to the gratuitous instruction which is afforded to the work-people in drawing and designing in a great school of arts at that city; but the increasing attention now paid to these subjects in this country, affords reason for hoping that, even in the fancy department, the British manufacturer will not be long behind his foreign competitors.

The numerous fabrics woven from silk may in general be classed under the head of *Broad Silks*, comprehending velvets, damasks, satins, levantines, ducapes, gros-de-naples, sarcenets, persians, gauze, &c.; *Crapes*; *Handkerchiefs*, embracing bandanas, barcelonas, and similar textures; *Ribands*; *Hose and gloves*; *Mixed goods*, comprehending bombazines, poplins, lustres, shawls, and all the fabrics in which silk forms a component part. [See these different heads.] Silk is, besides, used in the manufacture of a number of small articles.

A variety of processes are followed. In weaving plain goods, a simple loom is employed, which in construction does not materially differ from that used for other fabrics; but figure-weaving, or the art of producing various patterns in the cloth, is generally performed by a loom invented by M. Jacquard, an ingenious but unfortunate weaver of Lyons. The Jacquard loom was introduced into this country; and as by its means the most beautiful products can be accomplished by men of ordinary skill, and with little more labour than that required for the plainest goods, it has entirely taken the place of every other method of figured silk weaving. Power-weaving is employed for the production of both broad silks and ribands; but owing to the delicacy of the texture of silk, it is not considered susceptible of much extension in any save common articles. It is prosecuted chiefly in factories in Cheshire, Lancashire, and Norfolk.

The principal seats of the manufacture in this country are,—for broad silks, Spitalfields, Manchester, Macclesfield, Glasgow, Paisley, and Dublin; for crapes, Norfolk, Suffolk, Essex, Middlesex, and Somerset; for handkerchiefs, Manchester, Macclesfield, Paisley, and Glasgow; for ribands, Coventry; for hosiery, Derby; and for mixed goods, Norwich, Manchester, Paisley, and Dublin. The annual value of the manufacture is estimated at nearly £10,000,000; more than 9-10ths of which are for home consumption.

The foreign states in which the manufacture chiefly exists are China, India, France, Italy, and Switzerland. The importations into this country are almost wholly from France and India; the former consisting chiefly of plain and figured silks, ribands and gauzes, millinery and made-up goods, with a small quantity of crape and velvet; the latter chiefly of bandanas and other handkerchiefs. Only about 1-5th of the importations from India is entered for home consumption, the remainder being re-exported to France, Germany, Spain, and America.

Progress of the Silk Trade of the United Kingdom from 1827 to 1840.

	1827.	1830.	1835.	1840.
French or European silks (exclusive of lace and millinery) entered for home consumption..... <i>lbs.</i>	115,278	126,370	160,840	243,246
India silks: Bandanas, romals, &c., do., pieces,	55,183	77,953	162,827	100,838
— Crape, shawls, scarfs, gown pieces, &c., do..... <i>No.</i>	24,200	17,620	2,740	463
— Taffeties, &c., do..... <i>pieces,</i>	18,150	2,978	1,813	1,890
Raw and waste silk, do..... <i>lbs.</i>	3,759,138	4,256,982	5,406,846	4,531,115
Thrown silk, do..... <i>lbs.</i>	454,015	436,535	251,370	288,147
British silk manufactures exported: de- clared value..... <i>£</i>	236,344	578,048	973,786	792,648

The exports of British silks are chiefly to the United States and the Colonies; they are also shipped to S. America, Germany, Belgium, and even India and France; to which last, goods to the amount of about £50,000 are now sent annually.

The duty on thrown silk is drawn back on the exportation of the goods into which it is converted —3 & 4 Wm. IV. c. 58, §§ 9, 10, and 11. (This drawback repealed by 5 & 6 Vict. c. 47, § 56.)

For further information, we must refer to the volume "Silk Manufacture" of *Dr Lardner's Cabinet Cyclopædia*, and to *Dr Ure's Dictionary of Arts, Manufactures, &c.*

SILVER (Fr. *Argent*. Du. *Zilver*. Ger. *Silber*. It. *Argento*. Por. *Prata*. Rus. *Serebro*. Sp. *Plata*. Per. *Nokra*), a metal of a beautiful white colour and

great lustre. Sp. gr. 10·5. In malleability and ductility it exceeds all metals except gold. It may be extended into leaves not exceeding 1-10,000th of an inch in thickness, and drawn into wire finer than a human hair. Fusing point, 1873° Fahrenheit. Silver is one of the metals which have been longest known; and its uses are numerous and important. Alloyed with copper, it is employed throughout the world for coins, and in the manufacture of a variety of articles of household furniture and ornament, for which purpose it is well adapted by its great unalterability. In the arts it is extensively used, particularly for silvering or plating other metals. The oxide of silver is used for colouring porcelain. The nitrate of silver is the strongest and most manageable caustic known in surgery.

Silver occurs in the metallic or *native* state in fine filaments, disseminated through rocks, but chiefly in veins in primitive and secondary mountains. It also occurs in combination with other metals, and with sulphur. The great source of supply is Mexico; but considerable quantities are also obtained in Peru, and other parts of South America, Russia, Austria, and Norway. In England it is found in small quantities in the lead mines. [BULLION. COIN. PLATE.]

SIMARUBA, the tough, fibrous, bitter bark of the *Quassia Simaruba*. It is imported in bales from the W. Indies; and its infusion is used as a tonic.

SINGAPORE, a small island at the eastern extremity of the Strait of Malacca, the site of a flourishing British settlement. Length, 25 miles; breadth, 15; area, 270 sq. miles. The town is situate in lat. 1° 17' N., and long. 103° 51' E. Population, 35,000, mostly Chinese and Malays. The island belongs to the East India Company.

This settlement was projected by Sir Stamford Raffles in 1818 as an emporium for the commerce of the Eastern Islands,—the British intercourse with which had materially suffered by the restoration of Java to the Dutch at the close of the war. The island was purchased from the Princes of Johore in 1819, and its sovereignty confirmed to Great Britain in 1825, by a convention with these princes and the King of Holland. Its climate is highly salubrious, being freshened with sea breezes. The rainy months are the coldest, namely, December and January; and the drier months, April and May, the hottest. Being, however, not above 80 miles from the equator, there is little variety in the seasons, and Fahrenheit ranges only from about 70° to 90°. Fruits, catechu, gambier, and a few spices, are the only vegetable productions of the island deserving of notice; and the preparation of pearl sago and iron implements by the Chinese are almost the sole manufactures. Singapore derives its importance solely from being an *entrepôt* for the commerce between Eastern and Western Asia, and also between the latter and Europe. For this it is admirably suited by its geographical position, being in the direct track of vessels going betwixt the Indian and Chinese seas, and in the immediate vicinity of the Malay peninsula and the richest of the Indian islands. When founded in 1819 it was inhabited by only a few hundred Malay fishermen; but in a very few years it became, next to Batavia, the greatest port in the Eastern Archipelago.

The town is situate on a salt creek near the W. part of a bay on the S. coast. Ships lie in the roads at the distance of from one to two miles according to their draught; but cargoes are discharged or taken in with safety by means of lighters. All provisions, except fish, are dear. Singapore is in every respect a free port, there being neither import or export duties, nor harbour or shipping dues. The mode of transacting business is described by Mr Crawford as simple and efficient. The European merchants, or rather factors, most of them acting on commission, do not trust their affairs to native agents, but transact them in person, with the occasional assistance of a Chinese creole as an interpreter and broker.

There is scarcely a port whose trade is so diversified as that of Singapore. The chief Asiatic productions to be found in its market are gold dust, pepper, Banca tin, edible birds' nests, coffee, raw silk, sugar, tortoise-shell, bêche-de-mer, cassia, sago, ebony, catechu, rattans, and a multitude of other articles, the produce of the countries described under the heads EASTERN ISLANDS, SIAM, ANNAM, and PHILIPPINES, which are re-exported, principally to England, China, and India, in exchange for British cottons, woollens, iron, hardware, firearms, Chinese articles and Indian piece goods, opium, &c. Of late years the aggregate amount of imports and exports has been about \$15,000,000, or nearly £3,200,000.

The intercourse with China, the Eastern Peninsula, and islands in the Archipelago, is conducted by natives in junks, proas, and craft of the most varied description,—every year showing an addition to their number and to the places in which they have been equipped. If to these be added the European, Indian, and American vessels, the whole amount of shipping annually entering Singapore is considerably upwards of 200,000 tons.

MEASURES, MONEY, &c.

Measures and Weights.—The covid, cloth measure, = 18 Imp. inches. The gantang of 2 bamboos, by which liquids, grain, and fruit, are sometimes sold, = 1½ English gallon, or 1·04 Imp. gallon. The common weight is the Chinese pecul of 100 catties, or 1600 taels, = 133½ lbs. avoirdupois. Salt, rice (from Siam and the Malayan archipelago), and sago, are sold by the koyan of 40 peculs. Bengal rice and corn are sold by the bag containing 2 Bengal maunds, or 164½ lbs. avoirdupois. Piece goods are sold by

the corgé or score. The gold and silver weight is the buncal, which weighs 2 dollars, or 83½ troy grains. British measures and weights are generally employed in the sale of European commodities.

Money.—Accounts are stated in Spanish dollars divided into 100 cents; also in rupees, annas, and pice, as in INDIA. Bills are commonly drawn on London at 6 months' sight; and on Calcutta, Bombay, Madras, Batavia, and Canton, at 30 days' sight.

SINKING FUND. [INTEREST (COMPOUND) AND ANNUITIES.]

SIZE, a gelatinous substance, obtained from parchment shavings, fish skin, and

several animal membranes. It is less adhesive than glue ; and is used by bookbinders, paper-hangers, and painters. Sometimes it is mixed with flour and gum.

SKATE OR RAY, a flat fish (*Raia*), of a rhomboidal form, with a long narrow tail. Eight or nine distinct species frequent the British coasts.

As food, the skate is held in very different degrees of estimation in different places. In London, particularly, large quantities are consumed, and the flesh is considered delicate and well flavoured ; but in some parts of the coast it is seldom devoted to any purpose beyond that of baiting pots for catching crabs and lobsters. Skate are in the best condition for the table during autumn and winter. In spring, and in the early part of summer, they are usually maturing eggs or young ; and their flesh is then soft and woolly. The French are great consumers of skate.

SKINS (Fr. *Peaux*. Ger. *Felle*. It. *Pelli*. Por. *Pelles*. Sp. *Pieles*), as distinguished in commerce from **HIDES**, are those—such as calf, goat, kid, and lamb skins—which, when prepared, are used in bookbinding, glove-making, and other lighter descriptions of leather-work. Calf and kip skins are largely imported from Russia and Germany. *Kip* is a term used in trade to distinguish heifer-skins, or such as are between the ox and cow hide and the calf-skin. Goat-skins are brought chiefly from Morocco and other parts of Barbary, Cape of Good Hope, India, France, and Germany. Kid-skins are extensively imported for the glove-manufacture, both in a dressed and undressed state ; the former solely from France, the latter mostly from Italy and India. Lamb-skins are brought in considerable numbers—from 1,500,000 to 2,000,000 annually—from Italy and the adjoining islands. The chief other kinds which enter into our import-trade are deer-skins from the United States, and seal-skins from British America. [FUR TRADE.]

SLATE (Fr. *Ardoise*. Ger. *Schiefer*), a laminated stony substance, of which there are many kinds ; though the only one of commercial importance is *clay-slate*, employed for roofing. It is also used in large slabs to form cisterns, for shelves in dairies, for paving the floors of cellars and warehouses, and for other purposes for which its strength, durability, coolness, and the ease with which it can be cleaned, owing to its non-absorbing property, adapt it : some fine varieties, rubbed smooth with sand, are likewise employed as a writing material, forming the well-known school-slate. The principal slate-quarries in Britain are in Wales, Cumberland, and Scotland ; the most extensive being in Carmarthen, near Bangor, and at Easdale and Ballachulish in Argyllshire.

The chief other kinds are, *Polishing-slate*, a light brittle substance of a cream-yellow colour, found at Zwickau in Saxony, Bilin in Bohemia, and Auvergne ; and *Drawing-slate*, of a grayish-black colour, used for crayons, the best kinds of which are found in Spain, Italy, and France.

SLAVE-TRADE. “The principle of co-operation,” according to Mr Wakefield, “explains the origin of slavery, the abolition of slavery in some countries, and the steady progress which slavery is making in others.” “All nations, or nearly all, have undergone the state of slavery, sometimes making slaves of the people of the country, sometimes obtaining slaves by means either of purchase from other nations, or of war ; and it is equally remarkable, that wherever population has increased so as to render land scarce, so as to provide for the combination of free labour, slavery has either assumed a very mild form, or has been wholly abolished. It is also remarkable, that slavery was revived in America by nations which had lately abolished it in Europe. Bodies of emigrants from Spain, England, and other European countries, settled in America, and took possession in every case of such a quantity of land, that there was enough, and more than enough, for all the settlers. With such abundance of land that every one could readily obtain a piece for himself, there would have been little combination of labour amongst these people, if they had not obtained slaves who might be compelled to help each other. All of these bodies of settlers did obtain slaves of one sort or other ; either red men, the natives of the country, or black men purchased in Africa, or criminals transported from Europe, or Europeans, not criminals, who were kidnapped and sold like the black natives of Africa.” (*Edition of the Wealth of Nations by the Author of England and America*, vol. i. p. 45-47.)

The practice of purchasing African negroes for the purpose of employing them in the mines and plantations of America, was begun by the Portuguese in 1503, and it gradually increased with the extension of European settlements in the New World. In course of time, the atrocities with which it was attended attracted the notice of philanthropists ; and in 1788 they were brought before the House of Commons by Mr Wilberforce ; through whose exertions, aided as they were by several of the most eminent statesmen of the day, and supported throughout the kingdom by the powerful agitation of Thomas Clarkson, Zachary Macaulay, and others, chiefly members of the Society of Friends, an act was passed, March 25,

1807, prohibiting slave-trading in the British colonies from and after January 1, 1808. This statute, however, merely subjected offenders to pecuniary penalties; and it is only since 1811, when, by Mr Brougham's exertions, slave-trading was enacted to be felony, that it has entirely ceased in our colonies.

At the close of the war (1814-15), the British government endeavoured to obtain the concurrence of foreign powers in the abolition; and eventually the whole of them passed laws prohibiting the traffic. They all likewise agreed to a mutual right of search, except the United States; though this power was the first to prohibit the importation of negroes.

The exertions of the abolitionists in Britain were then directed with augmented energy against the existence of slavery itself; which at length was abolished throughout the colonies by the statute 3 & 4 Wm. IV. c. 78, which enacted, that on August 1, 1834, the slaves then existing were to become apprenticed labourers; the term of their apprenticeship being fixed to expire partly on August 1, 1838, and partly on August 1, 1840, when they were to become altogether free. To attain this mighty object, there was voted to the planters, as compensation, the sum of £20,000,000; which was distributed as follow.

	Average Value of a Slave from 1825 to 1835.			Number of Slaves.	Relative Value of the Slaves.			Share of the £20,000,000 to each Colony.		
	£	s	d		£	s	d	£	s	d
Bermuda	27	4	11½	4,903	114,227	7	8½	20,324	7	0½
Bahamas	29	18	8½	9,705	220,573	15	3½	128,346	7	8½
Jamaica	44	15	2½	311,688	13,951,130	3	3	8,161,827	5	1½
Honduras	120	4	7½	1,900	230,844	0	0	101,958	19	7½
Virgin Islands	31	16	1½	5,192	165,143	9	2	72,240	8	5½
Antigua	32	12	10½	29,537	264,198	8	10½	425,808	7	0½
Montserrat	36	17	10½	6,356	234,465	8	0½	163,258	18	5
Nevis	39	3	11½	8,722	341,893	6	2½	151,007	3	11½
St Christopher	36	6	10½	30,680	750,840	7	1	331,630	10	7½
Dominica	43	8	7½	14,364	634,715	2	0	274,923	12	0½
Barbados	47	1	3½	62,807	3,867,276	19	0½	1,721,365	19	7½
Grenada	50	6	0	23,536	1,395,684	16	0	616,444	17	7½
St Vincent	58	6	0	22,287	1,341,691	13	4	521,848	19	0½
Tobago	45	12	0½	11,621	529,941	16	2½	234,054	4	11½
St Lucia	56	18	7	15,348	759,890	10	4	335,627	15	11½
Trinidad	105	4	5½	22,349	2,362,655	18	0½	1,038,119	1	3½
British Guiana	114	11	5½	94,915	2,729,047	13	8½	4,257,117	10	8½
Cape of Good Hope	73	9	11	39,427	2,224,224	7	9	1,247,401	0	7½
Mauritius	69	14	3	69,613	4,763,183	15	3	2,112,632	10	11½
Deficient Fractions										
720,993 45,221,738 15 10½ 20,000,000 0 0										

Besides Great Britain, the northern states of the N. American Union, and the Spanish American republics, have emancipated their negroes; but slavery still exists in most other parts of the western hemisphere. According to the latest accounts, the number of slaves in the southern states of the N. American Union is 2,500,000; in Brazil, 3,000,000; and in Cuba, Puerto Rico, and other places, 520,000; in all which there is of course still an extensive traffic.

In addition to this internal trade, however, negroes are extensively imported into Brazil, Cuba, and other places, notwithstanding the treaties to the contrary, and the maintenance by Britain of cruisers for the purpose of securing their fulfilment. This illicit trade is chiefly followed on the African coast, between the Niger and Angola; and its extent shows that it must be connived at by the local authorities of those states, or that they are unable to prevent it. It is further to be regretted, that, since the slave-trade has been declared illegal, the sufferings of the negroes have been greatly increased, owing to its being necessary to coop them up in small compass in their passage across the Atlantic, the better to avoid the British cruisers, while a pursuit by the latter often leads to their being thrown overboard. The loss of life in the middle passage is supposed to average one-fourth of the cargo; which is exclusive of that produced by the wars among the African tribes, in order to procure captives for the slavers, and by the "seasoning" of the negroes after their reaching the American main or the West Indies. The commodities given in exchange for the slaves in Africa consist chiefly of coarse arms and gunpowder, imported into Brazil and other places expressly for this infamous traffic from England and Belgium, the common cotton fabrics well known in the British manufacturing districts under the name of "coast goods," and the other articles peculiar to the African trade detailed under the head NIGERIA.

The shipping craft employed is chiefly of the build of the United States. The negroes seized on board slave-vessels by the English cruisers are, we may add, generally carried to the British settlement of Sierra Leone.

In addition to the trade in slaves on the western coast of Africa, there is a periodical exportation of them by caravans from Soudan to the Barbary States and to Egypt. Many of these, according to Dr Bowring (*Report on Egypt*, p. 87), are boys who have been cruelly mutilated at Kordofan for employment in the harems. There is also a considerable slave-trade carried on by the subjects of the Sultan of Muscat from Zanzibar, as well as by the Portuguese from Mozambique, for the supply of various parts of the East.

For further information respecting the slave-trade, we must refer to the works of T. Clarkson, Mr Stephen, Sir T. Fowell Buxton, and others exclusively devoted to the subject. The numerous conventions on the subject between Great Britain and other powers will be found in Mr Hertslet's Collection of Treaties.

SLIP, a term applied to a place with a gradual slope on the banks of a water, suited for shipbuilding; also to an ingenious apparatus, invented and patented by the late Mr Thomas Morton of Leith, for hauling vessels up to be repaired.

Morton's Patent Slip is a cheap substitute for dry docks, where it has not been deemed expedient or practicable to construct them. A vessel, on being placed in it, is in a similar situation to one upon a building slip; and a ship may be hauled up, have her bottom inspected, and even get a trifling repair, and be launched, in the same tide. A vessel is hauled up at the rate of 2½ to 5 feet per minute, by 6 men to every 100 tons. The whole cost of a slip, with an iron capstan-wheel purchase, &c., capable of containing at least two vessels (but exclusive of expense of laying down), is, for those of 100 tons, laying-ways 250 feet long, £400; for those of 200 tons, ways 280 feet, £550; and so on according to dimension. The apparatus is portable, and possesses other advantages, as explained in the Edinburgh Encyclopædia, article *Slip*, and Rickman's Life of Telford, pp. 134, 336. Morton slips are now in operation in almost all our principal ports, as well as at Calcutta, Quebec, Marseilles, Odessa, Philadelphia, and other places abroad.

SLOOP, a vessel with one mast, like a cutter, but having a jib-stay.

SMALT (Ger. *Schmalz*), called also azure or powder blue, is a vitreous substance; procured by roasting zaffre and potashes, or by fusing cobalt ore, flints, and potashes. In either way a blue glass is formed, which is afterwards pulverized. Smalt is employed for relieving the yellow-tint of writing-paper and linen, staining glass, porcelain, and earthenware, and for giving a blueish colour to starch. It is manufactured in Norway and Germany; from whence about 120,000 lbs. are annually imported into the United Kingdom.

SMELT or **SPIRLING**, a small fish (*Osmerus eperlanus*, Cuv.) of the salmon kind, plentiful on the E. and W. coasts of Britain; length about seven inches. It ascends the rivers in August, and, after spawning in March or April, returns to the sea. The Medway smelts have a high reputation. The smelt is commonly in great request from its delicacy and flavour: the peculiar cucumber-like smell of this fish is well known.

SMUGGLING, contraband trading, or importing goods without paying duty. This is a practice which can only be stopped by a moderate tariff. When duties are excessive, experience has shown that an illegal traffic will be created, which no power or ingenuity can put down. At present, owing to injudicious fiscal regulations, smuggling is carried on to a greater or less extent in almost all countries. In our own it prevails chiefly in reference to the trade with France, owing to its proximity, and the high duties exacted on many of its productions; and it appears, from the Report of the Import Duties Committee, 1840, that it has been so completely reduced to a system, as to be the subject of regular charges. These, according to Mr Macgregor's evidence, are 9 per cent. upon certain qualities of silk and fine goods; while for 10 and 12 per cent. all but the heavy goods can be insured into this country (p. 13). This report likewise explains that the high protective duty on French goods, while it promotes and encourages smuggling, and consequently interferes with the revenue, does not at all secure employment to the protected manufacturers in this country; for, adds Mr Macgregor, "it is a truism which experience has proved in every country in Europe, that the moment the duty is higher than the premium for smuggling, it ceases to be protective." (*Ibid.*) The weight of these reasons was felt in framing the tariff of 1842, in which many of the former duties were lowered; and a reduction of the excessive rates still maintained on brandy and some other articles only awaits, we believe, the conclusion of a commercial treaty with France.

But the abolition of smuggling by wise and moderate legislation is desirable on higher grounds. The moral influence of the law is impaired when it first tempts to its own violation, and then punishes; for a sympathy is thereby created in favour of the breakers of it. In Spain, into which, from oppressive duties, immense

quantities of merchandise are smuggled by way of Gibraltar and Portugal, no one is more popular or more interesting than the bold *contrabandista*. Multiplied evils beside flow from the bribery and corruption generated by extravagant duties. On these grounds, there are probably few reforms to which the friends of order in all countries could be more usefully directed than in establishing such fiscal regulations as should preserve illicit trade at a minimum.

In the United Kingdom, the direct cost of protecting the customs revenue, by means of a preventive guard and cruisers, is about £500,000, which is exclusive of the charges for custom-house officials. A few cruisers are also maintained on account of the excise revenue, besides an expensive revenue police in Ireland. The chief existing act for the suppression of smuggling is 3 & 4 Wm. IV. c. 53.

Vessels and boats belonging in the whole or in part to British subjects, having false bulkheads, false bows, double sides or bottoms, or any secret place adapted for concealing goods, or having any hole, pipe, or other device, adapted for running goods, are forfeited, with all guns, furniture, ammunition, tackle, and apparel; and all foreign vessels or boats, not square-rigged, coming to or arriving at any port of the United Kingdom, having on board goods liable to the payment of duties or prohibited, concealed in false bulkheads, bows, double sides or bottoms, or any secret place, are forfeited, 3 & 4 Wm. IV. c. 53, § 14.

If goods subject to any duty or restriction, or prohibited, be concealed in any manner on board any vessel, all such goods, and all other goods packed with them, are forfeited (§ 15).

Vessels of British ownership, not square-rigged or propelled by steam, and all such vessels, whether propelled by steam or otherwise, of less burden than 200 tons, of which the length is to the breadth in a greater proportion than 3 feet 6 inches to 1 foot, and all such last-mentioned vessels carrying arms, and all vessels of more than 200 tons burden, armed with more than 2 carriage guns of a calibre exceeding 4 lbs., and with more than 2 muskets for every 10 men, and all boats of such ownership, found within 100 leagues of the coast, are forfeited, unless the owners have obtained a license from the Commissioners of Customs (§ 16). [But by 5 & 6 Vict. c. 47, §§ 32 and 33, the provision as to vessels under 200 tons is, where the measurement is made by 5 & 6 Wm. IV. c. 56, to apply to vessels under 170 tons.]

Every vessel of such ownership, or whereof one-half of the crew are British subjects, is restricted in its men (officers and boys included) to the following proportions: viz., if of 30 tons or under, and above 5 tons, 4 men; if of 60 tons or under, and above 30, 5 men; if of 80 tons or under, and above 60, 6 men; if of 100 tons or under, and above 80, 7 men; and above that tonnage, 1 man for every 15 tons additional. In a lugger, the following are the proportions: if of 30 tons or under, 8 men; if of 50 tons or under, and above 30, 9 men; if of 60 tons or under, and above 50, 10 men; if of 80 tons or under, and above 60, 11 men; if of 100 tons or under, and above 80, 12 men; and if above 100 tons, 1 man for every 10 tons additional. A vessel in which these restrictions are exceeded, found within 100 leagues of the coast, is forfeited, unless especially licensed by the commissioners (3 & 4 Wm. IV. c. 53, § 17).

Boats solely employed in the fisheries, and boats belonging to square-rigged merchant vessels, and life-boats or tow-boats belonging to licensed pilots, and boats used solely in rivers or inland

navigation, and in fishing on the coasts of the North and West Highlands of Scotland, and of Ireland, are not included in the above provisions (§ 23). [By 6 & 7 Wm. IV. c. 60, § 2, licenses are not required for vessels solely engaged in fishing on the coasts of Scotland.]

If goods liable to the payment of duties be unshipped from any vessel or boat (the duties not being first paid or secured), or if any prohibited goods be imported, or if any goods, warehoused in the United Kingdom, for home consumption or exportation, be clandestinely removed, all such goods are forfeited, together with all cattle, carriages, and other things, used in the removal (3 & 4 Wm. IV. c. 53, § 28). Persons making collusive seizures, or making arrangements to restore goods seized, or taking bribes, forfeit £500 for each offence, and are rendered incapable of serving in any government-office, civil or military; and any person attempting to seduce them to any such dereliction of duty, forfeits £200 (§ 33).

Every person concerned in the unshipping of prohibited or uncustomed goods, or knowingly harbouring, or suffering to be harboured, such goods or goods illegally removed from the warehouse; and every person to whose hands any such uncustomed or prohibited goods may knowingly come, or who may be in anywise concerned in their illegal removal from the warehouse, forfeits either treble value thereof, or £100, at the election of the commissioners (§ 44).

Every person who insures or undertakes to deliver uncustomed or prohibited goods, or who in pursuance of such insurance or otherwise, delivers such goods, and every aider or abettor, for every such offence forfeits £500, over and above any other penalty to which by law he may be liable; and every person agreeing to pay for such insurance or conveyance, or receiving or taking such goods into his custody, or suffering them to be so received, suffers a like penalty (§ 46). If any person offer for sale goods under pretence that they are prohibited, or have been unshipped and run on shore without payment of duties, such goods (although neither liable to duties nor prohibited) are forfeited, and the person forfeits the treble value, or £100, at the election of the commissioners (§ 47).

When goods are seized, and any dispute arises whether the duties have been paid, or they have been lawfully imported, or concerning the place whence they are brought, the proof lies on the owner, and not on the officer seizing (§ 114).

Prosecutions before the superior courts must be brought within 3 years after the cause of action, and those before justices within 6 months (§ 120). But where a person has escaped from custody, information may be laid before justices after the 6 months (§ 121).

SNOW, a vessel rigged in the same manner as a brig, except that the mainsail is attached to a small mast abaft and very near the mainmast.

SNUFF (Fr. *Tabac en poudre*. Ger. *Schnupftaback*). [TOBACCO.]

SOAP (Du. *Zeep*. Fr. *Savon*. Ger. *Seife*. It. *Sapone*. Por. *Sabao*. Rus. *Mulo*. Sp. *Jabon*), a detergent compound, made by uniting a fatty or oily body

with the alkalies soda or potash ; the union of soda forming *hard*, and of potash *soft* soap. Of the former, the principal qualities manufactured in Britain are,—*white soap*, composed chiefly of tallow and soda, but, for some purposes, of olive-oil and soda ; *yellow soap*, made of tallow, rosin, and soda, adding occasionally a little palm-oil ; *mottled soap*, formed of tallow, kitchen stuff, and soda,—its peculiar appearance being communicated by dispersing the lees through it towards the end of the operation ; *brown soap*, made from palm-oil, rosin, and soda. Soft soap consists usually of potash and oil ; the latter being generally fish oil, but occasionally linseed oil and cocoa-nut oil. Besides the above, there are a variety of toilet soaps, hard as well as soft, in the preparation of which perfumes and other ingredients are employed.

In Britain, where the soap manufacture is of great importance, the hard kind is made chiefly at Liverpool and London, but in considerable quantities also at Runcorn, Bristol, Brentford, Hull, Bromsgrove, Plymouth, and Smethwick, and at Glasgow and Leith in Scotland ; the soft kind is made principally at Liverpool, Glasgow, and Bradford ; and a kind called silicated soap is likewise extensively manufactured at Liverpool. From the excise returns, it appears that there were made, in 1841, in England, 140,712,535 lbs. hard, 9,788,851 lbs. soft, and 3,921,862 lbs. silicated ; in Scotland, 10,708,464 lbs. hard, and 4,535,030 lbs. soft ; making in all 169,666,742 lbs. ; which is an increase of about 30 per cent. since 1832. An allowance or drawback of duty is made on the soap used in the woollen, silk, flax, and cotton manufactures, which, in 1841, was granted on 10,190,160 lbs. hard, and 9,090,184 lbs. soft ; the allowances amounting to £78,112. In the same year, the net amount yielded by the soap-duty to the public revenue was £815,864.

In Ireland, where soap is not subject to excise-duty, the manufacture is carried on chiefly at Belfast, Londonderry, Limerick, and Cork ; but the quantity made is insufficient for the consumption ; and, in 1841, 9,818,769 lbs. hard, and 224,728 lbs. soft, were imported from Britain, the duty on which was drawn back on shipment. The exemption of Ireland from duty leads to fraudulent practices both there and in Britain, into which Irish soap is said to be largely smuggled.

The excise duty on soap was first imposed in Britain in 1711, when it was fixed at 1d. per lb. It was raised in 1713 to 1½d. per lb. ; and again, in 1782, when hard and soft soap were first distinguished, the former being rated at 2½d., and the latter at 1½d. per lb. In 1816, that on hard soap was increased to 3d. per lb. But since May 31, 1833, the duty has been 1½d. per lb. on hard soap, and 1d. per lb. on soft. In 1839, the number of soap manufacturers in England was 177 ; in Scotland, 19 ; and in Ireland, 183. Each requires an annual license, costing £4.

The soap-maker was formerly subjected to an arbitrary and vexatious interference from the excise ; but of late years the regulations have been greatly improved, and there is now no superintendence of the process of manufacture, which may be conducted in any way or of any material. The existing act is the 3 & 4 Vict. c. 49, which consolidated and amended the laws for collecting the duties, repealing at same time no fewer than 17 previous acts regulating the trade.

The exports, chiefly from Liverpool, amounted, on an average of the three years to 1841, to about 20,000,000 lbs., consisting almost wholly of hard soap. The improvements consequent on a relaxation of the excise interference have, of late years, exercised a favourable influence on this as on every other department of the trade. The imports of foreign soap amounted, in 1841, only to 384 cwts. hard, and 41 cwts. soft ; but great reductions of the customs duties were made in 1842, and the importation in future will probably be more considerable.

SODA (*Fr. Hydrate de soude. Ger. Aetznatron*), an alkaline substance, the protoxide of sodium of chemists, is found native in mineral seams or crusts in Egypt, in which it is called *natron* ; but in this country it is commonly obtained pure by boiling a solution of the carbonate with half its weight of quick-lime. In its original state it is of a gray colour, fracture vitreous ; but by the addition of water it becomes white, crystalline, and volatile, and is then the substance commonly called *pure* or *caustic soda*, but more properly the *hydrate*. Soda is very seldom used in a separate state. In commerce it generally occurs as a carbonate, either pure, or in the impure forms of **BARILLA** and **KELP**.

SODA, CARBONATE OF (*Ger. Kohlensaures natron*), commonly called *soda*, is found native near Tripoli, from whence it is exported under the name of *trona* ; also in soda lakes in Hungary and Venezuela. But the British market is wholly supplied with carbonate, either in the impure forms of barilla and kelp, as just noticed, or, as has been chiefly the case since the reduction of the salt-duty, by that prepared from the sulphate of soda. The latter is now largely manufactured at a very cheap rate, and of extreme purity ; and Mr Brande states, that in many of the arts it has been substituted for potash. Carbonate of soda is strongly alkaline in taste, and it changes vegetable blues to green. It is soluble in less than its weight of boiling water, and twice its weight of cold. When exposed to the air it effloresces.

SODA, SULPHATE OF, called also *Glauber's salt*, is abundantly produced in the manufacture of muriatic acid, and of chlorine by the action of sulphuric acid upon common salt. Large supplies are furnished by the manufacturers of bleaching-powder. It is also a natural product, and occurs in many mineral waters. Sulphate of soda crystallizes from its aqueous solution in large prisms, transparent, and efflorescent when exposed to air ; its taste is saline and somewhat bitter ; and it is soluble in rather less than three times its weight of cold water. It is often made expressly for the production of soda and the carbonate.

The carbonate of soda is an article of the greatest importance in the soap, glass, and other manufactures. Both it and the sulphate are likewise employed in medicine. They are extensively manufactured in the United Kingdom ; and besides the demand for home consumption, considerable quantities are sent to the United States and other places.

SOLE, a species of flounder (*Solea vulgaris*), common on the British coasts : those of the S. and W. are much larger, and considered otherwise superior to those

of the N. and E. The principal fishing ground is along the S. coast from Sussex to Devonshire, particularly at Brixham and Torbay. Soles are in season from May till November.

SOUND, a strait between Sweden and the Danish island of Zealand, which forms the principal channel of communication betwixt the North Sea and the Baltic. A toll or tribute, called the "Sound dues," is levied by the King of Denmark on all merchant-vessels passing this strait, or the two Belts, at the town of Elsinour, situated on the W. side of the narrowest part of the Sound, about 20 miles N. from Copenhagen, and at which they are required to anchor while effecting a clearance.

The dues are levied on both foreign and Danish vessels, according to a fixed tariff. It is adjusted chiefly according to the quantities of the goods; and amounted formerly to from 3-4ths to 1 and 1-4th per cent. on their value; but by a treaty between Great Britain and Denmark, concluded in 1841, a new tariff has been agreed to, in which there are several important modifications, and the dues on the cargoes of British vessels (even when shipped at ports not British) may be now reckoned at about 1 per cent. *ad valorem*, which indeed is the rate fixed for cotton manufactures, spices, and non-enumerated articles. Besides the Sound toll, there are levied light dues, at the rate of 4½ specie dollars per vessel (above 40 tons) when laden, and 2½ specie dollars when in ballast, each time they are passing the Sound or Belts; also a variety of small fees.

The duties, light-money, and other exactions, are levied in specie rixdollars of 48 stivers; reckoning the specie rixdollar at the rate of 9½ to the Cologne mark weight of fine silver, which makes its value about 4s. 5d. sterling. It is, however, understood that the notes issued by the Danish National Bank are to be received in payment at the current exchange.

The revenue derived by Denmark from the Sound toll amounts to nearly £200,000 per annum. The dues, though levied for the ostensible purpose of maintaining lighthouses on the coast, appear to have originated in an ancient claim by the Danes to the exclusive privilege of navigating the Baltic, as the Genoese did the Black Sea. They have been the origin of many quarrels, and cost more money than, if sunk at a very low interest, would have produced a much higher revenue. Betwixt 1348 and 1659, they caused continual disturbance, leading, on two occasions, to the burning of Copenhagen, and to the repeated destruction of the Danish fleet. In 1659, the Danes were obliged by the English, Dutch, and French, to fix the duties according to a moderate tariff. Yet even in last century they were the subject of altercation with both Sweden and Holland. Considerable surprise has often been expressed at the tacit submission of the naval powers of Europe to the payment of the Sound dues; but they seem to consider, either that the length of time during which they have been submitted to has settled the question of right, or that the amount of impost and its annoyances to trade are compensated by the advantages to navigation.

The number of ships which passed the Sound, and cleared at Elsinour, in 1837, was 13,102, in burden 2,033,706 tons; including 3417 British vessels, in burden 655,447 tons.

The only other water communications betwixt the North Sea and the Baltic are, the strait called the Great Belt, betwixt the islands of Zealand and Funen; the Little Belt, betwixt Funen and the continent; the Sleswick Holstein, or Eyder Canal, opened in 1784; the Stecknitz Canal, betwixt the Elbe and the Trave; and the Gotha Canal, in Sweden. The navigation of the Great Belt, being circuitous and difficult, on account of sand-banks and rocks, is frequented almost solely by Danes; of 2107 vessels which passed this strait in 1836, only 4 were British. The Little Belt, in some parts only about 4000 feet wide, is extremely hazardous, and seldom used.

SOUTH AUSTRALIA, a British colony extending from 132° to 141° E. long., and from the S. coast, including the adjacent islands, northwards to the Tropic of Capricorn. Area, 300,000 sq. miles. Public affairs are administered by a governor appointed by the crown, but a local constitution may be framed when the population shall amount to 50,000.

The coast of this part of Australia, discovered by Flinders in 1802, was first regularly settled in 1836, when the capital, *Adelaide*, was founded in lat. 34° 57' S., long. 138° 43' E. to the E. of Gulf St Vincent, and distant 6 miles from a creek affording good accommodation for shipping. Little is known regarding the interior, which, however, appears generally to resemble New South Wales, in being adapted rather for pasture than for cultivation. By the act of constitution, it is to be governed only by laws expressly enacted for it; is in no case to be employed as a convict settlement; and no public lands to become private property, except by purchase at a fixed minimum price, or as much above it as may be determined by auction. "The whole of the purchase-money of waste or public land to be employed in conveying labourers, natives of the British Isles, to the colony." And the disposal of public lands and management of the emigration fund, was vested in crown commissioners. An extensive joint-stock concern, called "The South Australian Company," was afterwards formed, having for its objects the purchase of land and the promotion of emigration; and who grant leases to experienced farmers.

The usual course of trade is similar to that at the Port Phillip settlement. In the five years 1836-1840, 137 vessels, having an aggregate burden of 52,481 tons, and carrying 12,370 emigrants, were despatched from the United Kingdom to this colony.

SOUTH SEA COMPANY, an association formed in London in 1711, avowedly to trade in the South Seas, but chiefly in reality to afford financial aid to the government, whose obligations they received as capital stock. The amount thus created was £9,471,325, increased in 1715 to £10,000,000, on which the company received 6 per cent. interest, besides £8000 a-year for management. In 1720 was passed the celebrated South Sea Act, authorizing the company to take in by purchase or subscription both the redeemable and unredeemable public debts, with the view of reducing them all under one head of account at a uniform interest. A full account of the *South Sea Bubble*, and of the numerous projects generated by the speculative phrensy which prevailed in England in 1720, will be found in

erson's Annals of Commerce, vol. iii. p. 90. It may be sufficient to notice that the stock of the company, after many changes before 1733, was then £1, and has since remained, at £3,662,784, 8s. 6½d. [FUNDS.]

VEREIGN, an English gold coin first minted by Henry VII., 1485. Its value varied at different times; and in 1666 it was superseded by the guinea. The coin was again struck in 1816, since which it has been the principal gold of the United Kingdom. It is minted 22 carats fine, and at the rate of 7s. 10½d. per troy ounce; hence its full weight is 5 dwts. 3·274 grains; but the sovereign of 5 dwts. 2½ grains, and the half-sovereign of 2 dwts. 13½ grains, are the legal currency by royal proclamation, June 7, 1842. [COIN.]

SOY, a peculiar savoury sauce made from the bean of the *Soja*, a species of *Mimosa* growing in the eastern parts of Asia. Genuine soy is well flavoured, thick, brown, and clear; and when shaken in a glass, it should leave a coat on the inside of a bright yellowish brown colour. It is imported from Canton, but the best is brought from Japan by way of Batavia.

SPAIN, a European kingdom lying between lat. 36° and 43° 46' N., and long. 1° E. and 9° 10' W.; bounded N. by Bay of Biscay and France; W. by Portugal and the Atlantic; and S. and E. by the Straits of Gibraltar and the Mediterranean. 183,000 sq. miles. Population, 12,500,000. Capital, Madrid, an inland city, 183,000. Government, a constitutional monarchy: the legislative power is vested in the king (or queen) and the cortes composed of two co-legislative bodies,—a chamber nominated by the sovereign from a triple list proposed by the provincial assemblies, and a congress of deputies chosen by the provinces at the rate of 1 for 50,000 of the population. The elections are triennial; one-third only of the members, however, going out at each period.

Spain, next to Switzerland, is the most mountainous country in Europe. The lofty Pyrenees forming its N.E. barrier, are continued through the N., where they receive the name of the Cantabrian chain, running parallel to the Bay of Biscay, and terminating in Cape Finisterre. The character of the country may be considered generally as a series of mountain-terraces, which progressively their rugged edges towards the S. present a flight of gigantic steps from the Cantabrian range to the Mediterranean. But the central portion, comprising the greater part of the provinces of Old Castile, New Castile, Leon, and Estremadura, is an elevated table-land, rising from 2000 to 3000 feet above the level of the sea. The singular configuration of Spain gives it a climate various. In the low grounds, the heat during summer is excessive; in the high regions the temperature is cooler; and the interior is subject to piercing winds, which prevent the production of many fruits that thrive in the more northern latitudes of Italy.

The chief rivers of Spain are the Ebro, Douro, Tagus, Guadalquivir, and Guadiana, some of which run several hundred miles, but owing to the aridity of the table-land, and the adjoining mountains in which they almost all rise, they contain little water; they are besides impeded by rocks, rapids, and cataracts; and only a very few are navigable for small boats, and that commonly only near their mouths. But though nearly useless for the purpose of inland communication, they are of great importance for the irrigation of the ground,—a practice nearly general in the countries bordering the Mediterranean, and in the basin of the Guadalquivir. In the table-lands, irrigation cannot be introduced, owing to the depth of the river courses; and in the N. and N.W. maritime provinces it is unnecessary, from the abundance of the rains.

The soil is in general fertile, especially where irrigation has been employed; and the vales on the coast are remarkable for their perpetual succession of crops. But agriculture, except in the Basque provinces, Navarre, and Arragon, and in the *huertas*, or irrigated lands of Granada, Murcia, and Valencia, is in the most backward state imaginable. The most common kinds of grain are wheat, barley, and rice; the wheat is raised chiefly in Catalonia, Old Castile, and Leon; and the corn in the N.E. provinces. Hemp and flax are cultivated principally in the basin of the Ebro; and saffron on the table-land of Cuenca; and the sugar-cane and cotton in the S. districts. The principal products of southern latitudes, namely olives, figs, vines, oranges, and lemons, also raisins. And to these have to be added barilla, silk, honey, liquorice juice, cork, and esparto grass. The Pyrenees, Asturian Mountains, and the Sierra Morena, possess luxuriant forests; and the whole, Spain has less timber than any other extensive country of Europe.

Domestic animals, the most important are sheep, especially the merinoes or fine-woolled, which pass the winter in the plains of Andalusia, Castile, Leon, and Estremadura, and in summer to the nearest mountains, chiefly the Sierras de Guadarama, Avila, and Gata. The grazing system, which originates in the physical state of the country, is an important part of the rural economy of Spain, and is governed by peculiar and in many respects oppressive customs and laws. The number of sheep is estimated at nearly 14,000,000. Goats also are numerous; and asses and mules are distinguished for their size and beauty. Spain was formerly celebrated for her horses, especially those of Andalusia; but few of the finer breeds now remain.

Minerals abound, but the only mines extensively worked are those of quicksilver at Almaden; in Granada; and of iron in the Sierra de Aralar. Salt is procured at Cardona, in Catalonia, from the Albufera de Valencia, and from the sea water on the coast of Seville.

Manufactures were carried on to some extent in Spain in the 14th and 15th centuries, but they have since languished; and for a long series of years they have been in a very low condition, owing to the general causes which depress the country, to oppressive taxes, corporation privileges, and government monopolies, the languishing emulation produced by the prohibition of foreign goods, the indolence of the people, produced partly by the enervating influence of the climate. The principal manufacturing seats are Barcelona and other towns in Catalonia, and Alcoy and Valencia, in the adjoining province of that name; where silks, cottons, and woollens are made, but, except

The *arançada* of vineyard land = 5377½ square varas = 3 Imp. roods, 33 poles nearly; the *fanegada* of corn land is in general about 6000 square varas, or 1 Imp. acre, 10½ poles nearly; the *yugada* is 50 fanegadas; and the *cahizada* is a vague measure of land, on which a *cahiz* of corn may be sown.

The *cantara*, or greater arroba, wine measure, of 8 azumbres, or 32 quartillos, = 3.54 Imp. gallons; and 16 wine arrobas = 1 moyo = 56.64 Imp. gallons. The lesser arroba, oil measure, of 4 quartillos, or 100 quarterones, = 2.77 Imp. gallons. The *botta* = 30 wine arrobas = 38½ oil arrobas; the pipe = 27 wine arrobas = 34½ oil arrobas = 95½ Imp. gallons.

The *fanega*, corn measure, of 12 celemines, or 48 quartillos, = 1.55 Imp. bushel; and 100 fanegas = 19½ Imp. quarters; the *cahiz* of 12 fanegas = 18½ Imp. bushels.

The pound of 2 Castilian marks, 16 ounces, 128 drachms, or 9216 grains, = 7101 troy grains; the arroba of 25 lbs. = 25.36 lbs. avoirdupois; and the quintal of 4 arrobas, or 100 lbs., = 101.44 lbs. avoirdupois.

The apothecaries' weight is the same as the above; their ounce, however, is divided into 8 drachms, 24 scruples, 48 obolos, 144 caracteres, or 576 grains.

The gold and silver weight is the Castilian mark = 3550½ troy grains; in weighing gold it is divided into 50 castellanos, 400 tomines, or 4800 grains; and in weighing silver into 8 ounces, 64 ochavos, 128 adarmes, 384 tomines, or 4608 grains. The fineness of gold is expressed by dividing the mark or other unit of reference into 24 carats, each of 4 grains; the fineness of silver, by dividing it into 12 dineros, each of 24 grains.

The diamond ounces of 140 carats, or 560 Castilian grains, = 431½ troy grains nearly.

The preceding are the Castilian standards, which are the general or official standards of Spain. But the local variations are numerous; the chief are the following:—

Alicant.—100 varas = 83.22 Imp. yards. The *tonelada*, of 2 pipes, 80 arrobas, or 100 cantaros, = 254½ Imp. gallons. The *caffise*, = 64 Imp. bushels. The arroba of 24 great pounds, or 36 small pounds, = 27.39 lbs. avoirdupois; the quintal consists of 4, and the *carga* of 10 arrobas.

Barcelona.—The *cana* of 2 varas = 62.25 Imp. inches. The *carga*, of 16 cortanes, or 12 arrobas, = 27½ Imp. gallons; and 4 *cargas* = 1 pipe: the oil *carga* is divided into 11 arrobas. The *salma*, of 4 quarteras, = 7.53 Imp. bushels: the *carga* of corn is 2½ quarteras. The arroba of 26 pounds, each of 12 ounces, = 21.37 lbs. avoirdupois; 4 arrobas = 1 quintal.

Bilbao.—The *fanega*, corn measure, = 1.65 Imp. bushel. The quintal of 100 lbs. = 108 lbs. avoirdupois; but the quintal *macho*, used in weighing iron, consists of 146 lbs., equal 157½ lbs. avoird. In other respects same as Castile.

Malaga.—The *cantara* or arroba, of 8 azumbres, = 3.49 Imp. gallons; the pipe of wine contains 35 cantaras, but is reckoned at only 34, or 118½ Imp. gallons. The *bota* of oil contains 43 Castilian arrobas. The *carga* of raisins weighs 7 arrobas, or 177½ lbs. avoirdupois; a basket is half a *carga*. In other respects, same as Castile.

Valencia.—The *vara* = 36.16 Imp. inches; and 12 Valencia varas = 13 Castilian varas. The arroba, liquid measure, = 2.59 Imp. gallons; the *carga* of wine = 15 arrobas; the *carga* of oil = 12 arrobas. The *cahiz*, = 5.65 Imp. bushels. The arroba, weight, = 28½ lbs. avoirdupois; 4 arrobas = 1 quintal, and 3 quintals = 1 *carga*.

MONEY.

Accounts are generally stated in reals of 34 maravedis vellon (billon), or, as by bankers, in reals of 16 quartos or 34 maravedis plate (silver).

The real of vellon, the most common coin in Spain, consists of a base mixture of silver and copper, and is worth 2½d. sterling. The real of plate, or more properly of old plate (*plata antigua*), a nominal standard used only in accounts and exchanges, is estimated according to an old silver coinage, and is worth 4½d. sterling. There are a variety of other reals, but when the term *real* is used alone, the real of vellon is always to be understood; and the simple term *plate* is to be understood as always denoting old plate.

In Alicant and all Valencia, accounts are kept in dollars of plate, or libras, divided into 20 sueldos, each of 12 dineros. In Barcelona and all Catalonia, the libra of account is similarly divided; but 5 dollars of plate are reckoned equal to 7 Catalonian libras.

The accounts of the public finances are stated in escudos vellon, each of 10 reals vellon. The escudo vellon = 2s. 1d. sterling.

Coins: In gold; the quadruple pistole, or doubloon of 8 escudos d'oro, = 320 reals vellon, or 16 hard dollars; the doubloon of 4 escudos = 160 reals vellon; the common doubloon or pistole = 80 reals vellon; the escudo d'oro = 40 reals vellon; the coronilla or gold dollar = 20 reals vellon:—In silver; the hard dollar = 20 reals vellon; the half-dollar or escudo vellon = 10 reals vellon; also the ½ dollar, or Mexican peseta; the ¼ dollar, or Provincial peseta; the ⅛ dollar, or real of Mexican plate; the ⅙ dollar, or real of Provincial plate; the ⅓ dollar, or half real of Mexican plate; and the ⅔ dollar, or real vellon:—In copper; double quartos of 8 maravedis vellon; quartos; ochavos, or new maravedis of plate; maravedis of vellon.

Since 1786, the Castilian mark weight of gold, 21 carats fine, has been coined into 8½ doubloons of 8 escudos, 17 doubloons of 4 escudos, 34 common doubloons, or 68 escudos. The same weight of silver, since 1772, has been coined into 8½ hard dollars, 17 half-dollars, 34 pesetas, or 68 reals of Mexican plate,—the fineness or standard of the dollars and half-dollars being 10½ dineros, and of the pesetas and reals of Mexican plate, 9½ dineros: the real vellon, and the Provincial peseta and real, are composed of base silver or billon. The remedy of the mint for the gold coins, is 24 grains per mark in the weight, and ⅙th of a carat in the fineness; for the silver dollar and half-dollar, 24 grains per mark in the weight, and ⅓th of a dinero in the fineness.

Hence the weight of the doubloon of 8 escudos, or quadruple pistole, is 417.70 troy grains; its contents in pure gold, 365.49 troy grains; and its value, when of full weight, £3, 4s. 8½d.: the weight of the hard dollar, 417.70 troy grains; its contents in pure silver, 374.19 troy grains; and its full value, 4s. 2½d. But the more general values of these coins, as deduced from assays, are £3, 4s. 1d., and 4s. 2d. respectively.

The ducat, pistole, and dollar of plate (i. e. *old plate*), are monies of exchange merely, not coins. The ducat of plate = 11 reals, 1 maravedi plate, or 375 maravedis plate: the pistole of plate = 4 dollars of plate: the dollar of plate, or piastre, = 8 reals plate = 15 reals, 2 maravedis vellon, or 512 maravedis vellon. The peso duro or hard dollar = 20 reals vellon = 10½ reals plate: hence 32 reals vellon = 17 reals plate: 64 hard dollars = 85 dollars of plate; and 4 maravedis vellon = 1 quarto of plate.

The *Exchange* with London is, throughout Spain, effected in piastres or dollars of plate, the par being 37½ pence per dollar. Bills from London upon Madrid, Cadiz, Bilbao, Barcelona, or Seville, are generally drawn at 3 months' date. The custom as to days of grace varies in different places: in Madrid none are allowed.

Banking, as understood in Britain, is unknown in Spain, and in ordinary transactions there are

as substitutes for cash. There is, however, an extensive circulation of inland bills of exchange, through the medium of the higher class of merchants, who all call themselves bankers, and who have agents and connections in the different towns to facilitate their operations.

FINANCES.

The finances of Spain are in such confusion that we are unable to furnish any precise account of their present condition. In the budget for 1838, the revenue was stated at reals 71,498,825 = £7,498,925; but it may be doubted if this sum was realized; and, at all events, it was greatly exceeded by the expenditure.

The debt in 1838, according to the report of a

SPECIE, metallic currency.

SPECULATION is, according to political economists, every transaction in which an individual buys in order to sell again; but among commercial men, the term is more loosely applied to incurring extensive hazards in the hope of corresponding emolument; in short, to whatever is foreign to the proper business of the individual, or beyond the control of common rules. [PRACK.]

SPELYER, a common name for ZINC.

SPERMACEYI (Fr. *Bleue de balaine*. Ger. *Walroth*. It. *Bianco di balena*), the product of the *Physeter macrocephalus*, a species of whale found chiefly in the South Sea. This whale is characterized by an enormous head, great part of which is occupied by a triangular cavity filled with a white fluid oily substance, which, after its death, congeals into an tenuous mass, from which a considerable quantity of oil may be obtained by expression. The residuum is a concrete fatty substance called spermaceti, which is generally imported in a crude state; after being purified, it is cast into blocks or cakes. These are of a white colour, have a peculiar lustre, are transparent, brittle, smooth, but not greasy; smell peculiar, but weak. Sp. gr. 744. Spermaceti burns with a brilliant flame, without smell, and is used in the manufacture of candles; also for medical purposes.

Spermaceti is more pure, and burns more perfectly and brilliantly than common whale oil; and it is accordingly much used for the finer kinds of lamps.

SPIGELLA, or **CAROLINA PINK**, a perennial, herbaceous, medicinal plant (N. *Marylandica*) indigenous in the S. states of the N. American Union. The part chiefly valued is the root, which, in its newly dried state, is celebrated as antihemorrhagic. It is purchased by the Americans from the Creek and Cherokee Indians, but losing power by keeping, it is carried to Europe.

SPINELL is a mineral stone which occurs crystallized either in regular octahedrons, or in masses presenting different forms. It is of various shades of red, some of which, more rarely black. Sp. gr. 3.5. By lapidaries, the scarlet-coloured is termed *spinus ruber*; the rose-red, *spinus ruber*; the yellow or orange red, the *spinus*; and the violet-coloured, *spinus ruber*. The first is the most valuable. Spinel is not so hard as the oriental ruby, and is readily distinguished, both by its colour and crystallization. It is principally found in Ceylon and the Malay peninsula. The pale, blue, and pearl-grey varieties are found in Sweden.

SPINOSA denotes liquors, imitations of ALCOHOL, which differ from each other in taste and flavour, and some of them in colour, though this last difference is unimportant, as when first prepared, they are all limpid and colourless, and acquire the peculiar tinge by which they are ultimately distinguished from the cask in which they are kept, or from some colouring substance added during their preparation. They derive their taste and flavour from particular essential oils with which they are impregnated, and which differ according to the substances that furnish each spirit as are employed in the manufacture. Commercially, they are known as French and Colonial, and British, and for fiscal purposes, the former are separated in the customs, the latter to the excise departments of the public revenue.

SPINOSA and **COLONIAL SPIRITS** consist of brandy, procured from wine; rum, from the fermented juice of the sugar-cane; and ginerva, made chiefly from rye; a particular article of which will be found under these respective heads. Other spirituous liquors are prepared abroad: but with the exception perhaps of Indian spirits, usually manufactured from rice, they are unimportant and little known beyond the boundaries of production.

SCOTCH SPIRITS are made principally from barley, employed either in the state of grain or malt, according to the kind desired. In Scotland and Ireland, where spirits are the national beverage, the liquor is preferred in its pure and simple state (Whisky), and it is supplied to the retailers directly from the distillers,

committee of the English creditors, was as follows:—Active foreign debt, £31,698,928; active internal debt, £8,302,865; together, £39,991,793. Equal in real value to.....r. 5,588,143,000. Internal debt, not bearing interest 9,998,698,321. Foreign debt, do. 2,634,344,000.

Total. r. 17,927,976,320

or £147,062,253. The foreign debt was contracted in Britain, France, and Holland.

TREATIES.

Numerous conventions exist between the United Kingdom and Spain, for the particulars of which our limits will allow us only to refer to Mr. Herschel's Collection of Treaties.

which are very numerous. In England, on the other hand, beer is the general drink of the people ; while spirits, the use of which is confined chiefly to large towns, are not considered palatable until compounded with and disguised by the addition of other ingredients [GIN], and hence the rectifier has been constituted the individual who furnishes the spirits for retail,—leaving distillation a kind of monopoly in the hands of a comparatively small number of persons. Repeated attempts have been made, by the imposition of high duties and otherwise, to diminish the consumption of spirits ; but in no instance with success. Whenever the tax is carried beyond certain moderate limits, it gives rise to illicit distillation ; and without in any degree lessening the evils of drunkenness, produces other kinds of demoralization, bringing the law into contempt, and enabling those who despise its enactments to undersell the fair trader.

The *Spirit Duties* are the most important of all under charge of the excise ; both with respect to the amount of revenue received, and to the extent of official employment which they impose.

In England, spirits were first subjected to the excise in 1660. After various fluctuations, the duty stood in 1790 (reckoned in Imperial) at 3s. 4½d. per gallon ; at which it continued until 1819, when it was brought up to the maximum rate of 12s. 7d. per gallon. This high duty remained until 1826, when, in consequence of the satisfactory result of a great diminution in the duty in Scotland and Ireland in 1823, it was reduced to 7s. a-gallon. The effect of this alteration was an increase in the quantity brought to charge from 3,655,232 gallons in 1825, to 7,007,204 gallons in 1826. In 1830, the rate was raised to 7s. 6d. a-gallon.

In Scotland and Ireland, the duties, after various changes, were reduced, the former from 6s. 2d., the latter from 5s. 7½d. to 2s. 4½d. per gallon ; which, however, was raised, in 1826, to 2s. 10d., and, in 1830, to 3s. 4d. per gallon. In 1834, the Irish duty was lowered to 2s. 4d. ; but it was again made equal to the Scottish in 1842 (5 Vict. c. 15).

The act 3 Vict. c. 17, added 4d. per gallon to the duties after May 15, 1840 ; thus making the rates 7s. 10d. in England, and 3s. 8d. in Scotland and Ireland ; which duties are reckoned on spirits of hydrometer proof. On the malt used by distillers, a drawback is allowed of 8d. per gall. The consumption of spirits in the United Kingdom, 26,729,004 gallons in 1831, increased in 1836 to 31,348,334 gallons ; but in the next five years, it fell off to 24,124,921 gallons, the quantity shown below for 1841. This decrease is mainly attributed to the progress of temperance associations in Ireland. The amounts stated, however, are not believed to show the whole consumption, as the duties are still sufficiently high to afford some encouragement to smuggling.

Total Number of Proof Gallons of Spirits that paid Duty in 1831 and 1841.

	1831.				1841.			
	Rum.	Brandy, &c.	British Spirits.	Total.	Rum.	Brandy, &c.	British Spirits.	Total.
England, galls.	3,479,911	1,209,796	7,434,047	12,123,754	2,217,073	1,127,849	8,185,499	11,530,421
Scotland, . . do.	125,702	38,994	5,700,689	5,865,385	48,523	40,291	5,969,905	6,078,719
Ireland, . . . do.	18,984	10,209	8,710,672	8,739,865	12,374	17,954	6,485,443	6,515,771
United Kingdom, . . . do.	3,624,597	1,258,999	21,845,408	26,729,004	2,277,970	1,186,104	20,660,847	24,124,921
Net Duty . . . £	1,629,881	1,415,061	5,189,681	8,234,603	1,063,087	1,354,079	5,168,862	7,586,028

The number of gallons distilled in 1841 were as follows:—In England, 5,919,207 ; Scotland, 8,504,333 ; Ireland, 6,359,124 ; total, 20,782,664. Imported into England—from Scotland, 1,804,657 gallons, from Ireland, 354,893 ; into Ireland from Scotland, 569,779 gallons ; into Scotland from Ireland, 98,253 gallons.

SPONGE (Fr. *Eponge*. Ger. *Schwamm*. It. *Spugna*. Arab. *Isfenj*), a light, porous, elastic, brownish yellow substance, procured by divers, chiefly in the Greek Archipelago and Red Sea, and of an inferior description in the West Indies. It is now ascertained to be a species of zoophyte. It grows into irregular tubes of a woolly consistence, and generally adheres by a broad base to rocks submersed in the ocean. When first taken, it has a strong fishy smell, and requires to be carefully washed from a gelatinous slime which covers its surface, in order to prevent its growing putrid. Sponges are prepared for use by washing them anew and beating them free of all stony matter, and they are even bleached to deprive them of colour. Their price varies exceedingly, according to the fineness of their texture. They are used for domestic purposes, in the arts, and in surgery.

SPRAT, a small fish (*Clupea sprattus*), resembling a young herring, found in large shoals on the Norfolk, Suffolk, Kent, and Essex coasts. It is also taken in the Forth, near Edinburgh, where it is called the *garvie herring*, and on the eastern coast of Ireland. Sprats are in season from November to March, when an abundant supply is always to be obtained at Billingsgate. Within the last few years they have been extensively used as a manure. The fishing for this purpose, called the *stow boat fishery*, is chiefly prosecuted on the Kentish coast.

SQUILL (Fr. *Sci'le*. Ger. *Meerswiebel*. It. *Scilla*, *Cipolla marina*. Sp.

Cebola albarrena), or sea-onion, is a perennial bulbous-rooted plant (*Scilla maritima*), found on the shores of Spain, Portugal, North of Africa, and the Levant. The bulbs are pear-shaped, and vary in size from that of the fist to the compass of a child's head. They are the only part used, and should be chosen plump, fresh, sound, full of a clammy juice, nauseous, acrid, and bitter, and causing inflammation when rubbed on the skin. In the shops, squill is commonly met with in the form of the dried shreds of the root. It is used medicinally, chiefly as an expectorant.

STADE TOLL. [HAMBURG.]

STAMPS, impressions made upon paper or parchment by government for the purposes of revenue. They always denote the tax levied, and sometimes the nature of the instrument stamped. Stamp-duties were first imposed in Holland, 1624; and they not long afterwards became general in Europe; there being, as Adam Smith remarks, "no art which one government sooner learns of another, than that of draining money from the pockets of the people." They were introduced into England in a temporary form in 1671; and having been revised in 1693 (5 Wm. & M. c. 21), were in time extended, so that besides crown grants, diplomas, probates of wills, and law and other formal proceedings, every instrument recording a transaction between two individuals was subjected to a stamp-duty before it could be used in a court of justice. Newspapers and legacies [SUCCESSION DUTIES] were also brought under the same system. Stamps were likewise adopted as a convenient method of imposing a duty upon particular classes of persons, as physicians, barristers, and attorneys, who are taxed before they can begin practice, under the form of an admission-stamp; and notaries, solicitors, bankers, pawnbrokers, and appraisers, who are not qualified to exercise their callings without a yearly license. The stamp acts, voluminous in number and extent, were consolidated in 1815 by 53 Geo. III. c. 184, a schedule annexed to which exhibits the whole duties exigible in Britain. They have been since mitigated, particularly by 5 Geo. IV. c. 41, which exempts law proceedings from stamps. In 1842, the stamp-duties in Ireland, formerly lower than those in the sister island, were raised to the same level, until October 10, 1845, by 5 & 6 Vict. c. 82. And the following table exhibits those chiefly of importance in commerce:—

TABLE OF PRINCIPAL STAMP DUTIES.

BILLS AND PROMISSORY NOTES.

Inland.

Not exceeding two months after date, or sixty days after sight		Range Period.	
For £2 and not above £5, 5s.	1 0	1 6	
Ab. 5, 5s.	20	1 6	2 0
20	30	2 0	2 6
30	50	2 6	3 6
50	100	3 6	4 6
100	200	4 6	5 6
200	300	5 0	6 0
300	500	6 0	8 6
500	1000	8 6	12 6
1000	2000	12 6	15 0
2000	3000	15 0	25 0
3000		25 0	30 0

Foreign.

Drawn singly same as inland bills.

When in sets, then for every bill of	1	6
each set not exceeding £100 ..	1	6
Above £100 and not above £200 ...	3	0
200 .. 500 ..	4	0
500 .. 1000 ..	5	0
1000 .. 2000 ..	7	6
2000 .. 3000 ..	10	0
3000	15	0

The duty on a promissory note for the payment of any sum by instalments, or of several sums at different times, is the same as that on a promissory note payable within a period not exceeding two months after date, for a sum equal to the whole amount to be paid. N. B.—Promissory notes for £100 or under are not to be drawn payable to the bearer on demand, except bankers' reasonable notes, which require a different stamp.

Bills of Lading .. 6d.

DEMENTURES.....d

INSURANCE POLICIES.

When sum not above £50.	£	s.	d.
Above £50 and not above £100.	0	5	0
100 and under £200.	1	0	0
When 200 .. 1000.	3	0	0
1000 .. 2000.	3	0	0
2000 .. 5000.	4	0	0
5000 and upwards.	5	0	0

FINES.

Duty on each policy £2 10
Besides 3s. per cent. per annum on every insurance made or renewed.
Exemptions.—Public hospitals; also agricultural produce, farming stock, and implements of husbandry, provided the insurance shall be effected by a separate and distinct policy.

SEA.—Coasting Voyages.

Premium not above 2½ per cent.
If sum not above £100 1 6
Every £100, and also for any fractional part of £100 1 6
Premium above 2½ per cent.
If sum not above £100 2 6
Every £100, and part of £100 2 6

Foreign Voyages.

Premium not above 15s. per cent.
If sum not above £100 1 6
Every £100, and part of £100 1 6
Premium above 15s. and not above 2½ per cent.
If sum not above £100 2 6
Every £100, and part of £100 2 6
Premium above 2½ per cent.
If sum not above £100 3 0
Every £100, and part of £100 3 0
For any certain term not exceeding three months.

	s.	d.	RECEIPTS	s.	d.
Every £100, and part of £100	2	6	For money amounting to £5 & under £10 ..	0	3
Exceeding three months	5	0	10 ..	20	0
If the separate interests of two or more distinct persons shall be insured by one policy, then the said duty of 1s. 3d., 2s. 6d., or 5s., as the case may require, shall be charged thereon, in respect of each and every fractional part of £100, as well as in respect of every full sum of £100, which shall be thereby insured upon any separate and distinct interest.			20 ..	50	1
PROTESTS.	s.	d.	50 ..	100	1
			100 ..	200	2
			200 ..	300	4
			300 ..	500	5
			500 ..	1000	7
On bill or note for any sum less than £20 ..	2	0	1000 or upwards ..	10	0
£20 and less than £100	3	0	For any sum acknowledged to be in full of all demands	10	0
100 ..	5	0	N.B.—By 9th Geo. IV. c. 27, any person who purchases receipt-stamps to the amount of £1 at one and the same time, from any duly appointed distributor or sub-distributor, is entitled to a discount of 7½ per cent. on every complete sum of £1 of purchase money.		
500 or upwards	10	0			
Protest of any other kind	5	0			
And for every sheet upon which the same shall be written after the first, a further duty of 5s.					

The stamp laws, in reference to mercantile writings, are explained under **BILLS OF EXCHANGE**, **POLICY**, **RECEIPT**, and other heads. Farther information will be found in *Chitty's Practical Treatise on the Stamp-Laws*.

STAPLE, originally a public market whither traders were obliged to carry their goods for sale; but now applied to the chief productions of a country.

STARCH (Fr. *Amidon*. Ger. *Amidam*), a substance found in a variety of vegetables, but procured generally from wheat flour or potatoes. The greater part of the common or wheat starch employed in this country is made in or near London. Potato starch is made chiefly in districts where potatoes are cheap and abundant, more particularly in Scotland. The process for obtaining it, in both cases, consists in diffusing the powdered or bruised grain or seed, or the rasped root or stem, in cold water, which becomes white and turbid; the grosser parts may be separated by a strainer, and the milky liquor that passes deposits the starch, which is to be washed in cold water and dried in a gentle heat. 100 lbs. of wheat produce about 33 lbs. starch; and 100 parts of skinned potato from 15 to 17 parts of starch. The best kind is white, soft, and friable, and easily reduced to powder. Sp. gr. about 1.5. It is insoluble in cold water and alcohol, but readily affords a gelatinous solution in warm water, which is largely employed for stiffening articles of wearing apparel, and for dressing some descriptions of goods after weaving. It is also much employed by the calico-printer. Potato starch is said to be much more susceptible of moisture than wheat starch, and goods which are stiffened with it are apt to yield in damp weather, and to become mouldy if laid by. A duty of 3½d. per lb. was formerly levied in Britain on starch, but it was abolished in 1834, at which time the excise accounts showed that the annual consumpt was about 8,700,000 lbs.

STEAM-ENGINE, a piece of mechanism by which the force arising from the properties of elasticity and of instantaneous condensation, possessed by steam, is either employed to produce a continuous rotatory motion (with a fly-wheel which constitutes a reservoir of power) for the purpose of driving machinery, or for any other use that power may be put to. In common with most other important applications of physical principles, no individual can lay claim to its invention; but its germ is to be found in the steam-pumps of the Marquis of Worcester (1663) and Captain Savery (1698); and in a more advanced state in the "atmospheric engine" of Newcomen (1705), also employed for pumping water only, but which, by the genius of James Watt (b. 1736, d. 1819), was eventually converted into the modern steam-engine. [MACHINERY.]

STEAM NAVIGATION was attempted by various individuals in the course of the 18th century; but the experiments which tended more than any other to develop this application of steam were the joint labour of three Scotsmen—Patrick Miller of Dalswinton, Dumfriesshire, James Taylor, his son's tutor, and William Symington, mining-engineer,—Miller preparing the proper vessel and propelling apparatus, Taylor recommending the steam-engine as the working-agent, and Symington effecting the modifications necessary in its structure. This took place between 1786 and 1789; and in 1802 a steam-tug, made by Symington, with a single paddle-wheel in the stern, was placed on the Forth and Clyde Canal; but the project was abandoned through fear that the undulation produced by it would prove injurious to the banks. Symington's apparatus, though then neglected in this country, had been seen and examined by many, and especially by Robert Fulton, an American, then studying painting under West; and who, with less merit as an inventor than Symington, but with more ample resources and greater

energy, succeeded, in conjunction with Chancellor Livingstone, in introducing steam navigation into the United States in 1807, when the *Clermont* of 160 tons was launched at New York. Four years afterwards, it was successfully established in this country by Henry Bell, an enterprising house-carpenter of Glasgow, who in 1811 started the *Comet*, of 25 tons burden and 3 horse power, to ply to a bath hotel which he had set up at Helensburgh.

The progress of steam navigation was afterwards rapid, particularly in the United States, owing to the number and extent of its rivers, for which alone steamers were at first considered to be adapted. As improvement advanced, however, and confidence increased, they came gradually into use as marine vessels, for which purpose they were first fitted in 1818 by David Napier, engineer, Glasgow, who, from that year until 1830, effected more for the improvement of steam navigation than any other man; and whose cousin, Robert Napier, is also honourably distinguished in the same walk. Mr David Napier established regular steam communication between Britain and France and Ireland; by degrees almost all parts of the shores of Europe were traversed in like manner; and in 1838 a line of steamers, of gigantic size, commenced running between England and the United States. Steam-vessels have since been adopted for many other parts of the ocean; and their increasing use in every civilized country has produced, and is daily producing, results which it is impossible fully to estimate.

We refrain from entering into any details respecting the formation of steam-vessels; but we may notice that of late years not a few have been built of iron, from its superior buoyancy to wood; and that a magnificent one called the *Mammoth* or *Great Britain*, is about to be launched at Bristol, on which 1500 tons of iron have been expended. Her dimensions are given as follows:—Length of keel, 282 feet; length over all, 324 feet; breadth, 51 feet; depth of hold, 32 feet; power of engines, 1000 horses; burden, 3200 tons; displacement, 3000 tons; and load draught, only 16 feet. The hull is divided into five distinct water-tight compartments. Another important feature in the *Great Britain* is the adoption of the screw propeller, which will save the cumbrous appendages of paddle-wheels and boxes. The screw propeller, as originally tested by the *Archimedes* steamer, was placed in the *dead wood* under its counter, and between the keel and stern post; and it consisted of a helix, making but one revolution about a horizontal axle passing longitudinally through the ship, and put in motion by a steam-engine. But this plan is said to be considerably modified and improved in the *Great Britain*. Should this bold experiment prove successful, it will probably lead to an entire revolution in the system of steam navigation.

The number and tonnage of British steam-vessels cannot be very accurately stated, because no correct information can be obtained respecting unregistered vessels, which ply only within the limits of their respective ports; and which appear to be very numerous in the Mersey, Humber, Thames, Clyde, and other rivers. According to an approximate statement prepared in 1839, the merchant-steamers at the end of 1838 were, for the British islands, 766 in number, having a burden (including 62,600 tons for engine-room, &c.), of 142,168 tons; and adding the aggregate colonial tonnage in 1837, 15,664 tons, there is given a total for the empire of 157,840 tons, the amount of horse-power being 63,250. Of the 766 British steamers, 484 were river steamers and small coasters, and 282 large coasters and sea-going ships. In 1838, the United States possessed an aggregate steam-tonnage of 155,473 tons, and 57,019 horse-power.

On December 31, 1841, the registered mercantile steam-marine of the British islands amounted to 95,795 tons; but adding to this the engine-room tonnage, and allowing for colonial and unregistered vessels, the aggregate must have amounted to fully 200,000 tons, exclusive of steam mail-packets and vessels of war, of which a large and yearly increasing fleet is now maintained.

A large steam-navy is now also possessed by France; but very few war-steamers have as yet been built in the United States. The number of steam-vessels possessed by other countries is comparatively inconsiderable.

STEARIN, the harder portion of animal fats; olein or elain being the softer one. Stearin yields an acid, called stearic acid, and having the form of brilliant white scaly crystals, which is now largely employed in soap and candle making.

STEATITE, a species of soap-stone found in Scotland, Anglesea, and many other parts. The white varieties, or those which become so by calcination, are used in the manufacture of porcelain; others are employed for fulling.

STEEL, a compound of iron and a minute quantity of carbon. [IRON.]

STEELYARD, a weighing-machine consisting of a lever of unequal arms.

STERLING, a term which has long been applied to the standard money of England. The derivations of this word, offered by various authors, are numerous perhaps beyond those of any other in our language. See *Ruding's Annals of the Coinage of Britain*, vol. i. p. 21-24.

STOCKS. [FUNDS.]

STONE, the name of a weight in different parts of Europe. The standard Bri-

tish stone = 14 lbs. avoirdupois. Formerly the stone of butcher-meat or fish in London (still partially used) was only 8 lbs. avoirdupois ; while in Scotland, the common commercial stone was 16 lbs. Scots troy = 17.39 lbs. avoirdupois.

STONE-TRADE. The principal kinds of stone used in building are the limestones or calcareous rocks of the geologist, commonly called freestone ; of these it would be useless to describe or enumerate more than a few. In England, *Portland stone*, so called from its principal quarries being in Portland Island, Dorsetshire, holds the first rank, and is that used in London for stone building, and for the ornamental parts of edifices. St Paul's, Westminster and Blackfriars Bridges, Newgate, and indeed most of the public buildings of the metropolis, are examples of its use. About 30,000 tons of Portland stone are said to be annually exported to London ; the best blocks bringing from 18s. to 22s. per ton ; and the inferior from 6s. to 8s. *Bath stone*, used in that city and neighbourhood, is softer and far less durable than the preceding. *Purbeck stone*, from Dorsetshire, coarser and harder than the preceding, is valued for steps, paving, door-sills, and copings. *Yorkshire stone* resembles the last. *Rag stone*, obtained from quarries on the banks of the Thames and Medway, is used for paving. The quarries of Gateshead Fell furnish the celebrated " Newcastle grindstones." There are various other kinds ; as, *Oxford stone* and *Ketton stone*, distinguished according to their principal localities. But, upon the whole, the quarries in England are not of any great extent or value ; and bricks are in consequence the chief building material.

In Scotland, however, where stone is used almost to the entire exclusion of bricks, the quarries are numerous and some very excellent, particularly Craigleith, near Edinburgh, and Cullalo in Fife. Superior granite is also found in various places, particularly near Aberdeen, from whence about 12,000 tons are annually shipped to London for works where strength and durability are required ; and in Kirkcudbrightshire, from whence that employed in the construction of the Liverpool Docks was partly derived.

In Ireland, there are quarries of granite in the county of Dublin, and near Newry, in the county of Down ; red sandstone in Tipperary and the county of Cork ; and limestone, of a rich kind, in Queen's County, and in the counties of Dublin, Meath, and Cork. Other varieties of stone are found in different parts.

STOPPAGE IN TRANSITU, is the right which the seller of goods has to stop them in *their passage* to the buyer, if the buyer has become bankrupt or insolvent before they come into his custody, and is unable to pay their price. It has been the subject of much debate whether this right partakes of the nature of lien, or is an exercise of property on the part of the seller ; but no practical rule has arisen out of these discussions, and the right is practised as an arbitrary exercise of expediency. It remains then simply to state the circumstances in which, according to the tenor of the decisions, it may be exercised. " All persons standing in the relation of vendor and vendee, or consigner and consignee, on a sale or consignment of goods on credit, may exercise the right of stoppage in transitu ; and there are cases in which the law recognises this right, though the contract under which the goods have been consigned may not be literally a contract of sale. Hence, where a factor or agent, by order of his principal, purchases goods for him, and consigns them to him on credit, with an additional charge on account of commission, making himself liable to the original vendor in the first instance, and no privity exists between such vendor and the principal, the factor or agent is so far considered as the vendor of the goods to the principal, as to be entitled to stop them in transitu, upon the insolvency or bankruptcy of the latter, though he may not perhaps be considered as standing in that relation for all purposes " (*Cross*, 363-4). There is no analogy to a general lien in the right to stop in transitu, and therefore it can only be exercised for the price of the individual commodity stopped, and cannot be had recourse to for a general balance. On the other hand, if the balance of accounts between the parties, taking the price of the goods into consideration, be not against the buyer—in other words, if it was so much in his favour that the delivery of the goods will not turn it against him—there is no right to stop.

The most difficult questions occur as to the position in which commodities may be stopped. While they are at the order of the vendor by being in the hands of his servants, there can be no doubt that the right exists, or, more properly speaking, the right of keeping possession exists ; on the other hand, when they have come under the order of the purchaser, by being in the hands of himself or his servants, there is as little doubt that the right ceases. The time for its exercise is while the property is in the hands of a middle-man, who holds for the benefit of whichever party has a just legal claim. A shipowner, carrier, packer, wharfinger, is such

middle-man. The property is liable to stoppage though the middle-man has been appointed by the consignee. But the consignee's connexion with the middle-man may be such that the latter's repositories are virtually those of the consignee, having been hired by him; so if the purchaser use the wharfinger's or packer's warehouse as a place for the custody and disposal of his goods, it is virtually his own warehouse, and the right to stop ceases on their arrival there. If the consignee keep the goods in the seller's warehouse, paying warehouse rent, the seller has ceased to have any control over them. There may be a commencement of delivery not so far completed as to give the purchaser sufficient possession to bar stoppage. Thus, where a bargeman, intrusted with a cargo of iron, landed part of it at the vendee's wharf, but hearing that the consignee had become bankrupt, immediately re-loaded it, it was found that he legally used the right of stoppage in favour of the seller (*Crawshay and Others v. Eades*, 1 B. & C., 181). When there is a right to stop in transitu, it is sufficiently exercised by notice being given to the middle-man in whose hands the property is; if he should disregard the notice and deliver the goods, the delivery will not be valid. (*Cross on Lien and Stoppage in Transitu*, 361, *et seq.*)

STORAGE, warehouse rent.

STORAX, a balsam obtained from the *Styrax officinalis*, a tree found in the Levant, Italy, and France. It was formerly used in medicine.

STORES, the supplies of food, liquor, and other articles provided for the subsistence and accommodation of a ship's crew and passengers. [CUSTOMS REGULATIONS. WAREHOUSING SYSTEM.]

STRANDING OF A VESSEL. In recovery of losses from underwriters, it is often a question of material consequence, whether the vessel was or was not "stranded," according to the legal meaning of the term. [POLICY.] To constitute stranding, it is not sufficient that the vessel has struck, if she has been speedily got off, however much she may be injured. In *Wells v. Hopwood* (3 B. & Adol. 20), a vessel arrived in a tide harbour, and proceeded to discharge her cargo at a quay on the side, which could be done at high-water only, and could not be completed in one tide. At the first low ebb the vessel grounded on the mud, but, on a subsequent ebb, the rope by which her head was moored to the opposite side of the harbour stretched, and the wind blowing from the east at the same time, she did not ground entirely, as it was intended she should, in the mud, but her forepart got on a bank of stones and rubbish. The vessel was strained, and her seams opened, closing again at high tide; and though she was in the end uninjured, the cargo was damaged, and it was held a stranding. In this case Lord Tenterden observed, "That where a vessel takes the ground, in the ordinary and usual course of navigation and management, in a tide river or harbour, upon the ebbing of the tide, or from natural deficiency of water, so that she may float again upon the flow of the tide or increase of water, such an event is not to be considered a *stranding* within the sense of the memorandum. But where the ground is taken under any extraordinary circumstances of time or place, by reason of some unusual or accidental occurrence, such an event shall be considered a stranding within the meaning of the memorandum." In *Kingsford v. Marshall* (8 Bingh. 458), the ground was taken where the master intended, but the vessel in taking it struck against some hard substance which pierced the bottom. The cargo was damaged, but this was held not to constitute a stranding. "If the ship," says Mr Marshall, "be forced aground, and remain for any time stationary, whether it be on piles, on the muddy bank of a river, or on rocks on the seashore, provided there be a settlement of the ship, so that the voyage is actually interrupted, that is a stranding, without reference to the degree of damage she sustains" (232). (*Park on Insurance*, 177, &c. *Marshall on Insurance*, 231-234.) [INSURANCE. POLICY.]

STRAW-PLAT consists generally of the stalks of wheat, but sometimes also of those of rice, rye, or darnel grass, which are platted in order to be made up into hats or bonnets. This branch of industry, which is every where of a domestic kind, appears to have originated in Italy, and to have been introduced about the middle of last century into England. The large size of the wheat-straw, however, in this country operated against the manufacture until within the last 50 years, when, owing to the adoption of splints or slips of straw in lieu of whole straws, and the interruption of the Italian trade by war, it rose into importance in Bedfordshire, Hertfordshire, and Buckinghamshire; the principal markets being Luton, Dunstable, and St Albans. Various kinds of plat are distinguished in trade, but they are continually changing with the caprice of fashion.

The straw used in Tuscany, the great straw-plat district of Italy, is said to be

that of *Triticum turgidum*, a variety of bearded wheat, cultivated solely for the straw ; being sown close, and consequently produced thin and short : the upper joint of the stalk is that chiefly used. The beauty of the Tuscan plat is also greatly increased by the mode of joining it so as to form, by the combination of several narrow strips, an extended sheet of platted work. British plat, again, is commonly joined by making the several rows of plat overwrap each other a little, and then joining the two overwrapping pieces with a needle and thread ; and the articles made of split-straw are besides inferior to those of whole-straw of equal fineness, in pliability and durability. The Tuscan manufacture is chiefly followed in the neighbourhood of Florence, Pisa, Sienna, and the Val d'Arno.

STUCCO, a compound of PARIS PLASTER and LIME, used in forming cornices.

STURGEON, a large cartilaginous fish (*Sturio*), of which there are several varieties. It is caught occasionally on various parts of our coast, most frequently in the estuaries, or but a short distance up rivers ; and is frequently brought to the London market from various localities. In the N. of Europe, the Caspian, and other places, the sturgeon fisheries are of great importance. Caviar is made of the roe of the female ; isinglass is obtained from the dense membrane forming the air-bladder ; and the flesh, besides being preserved by salting and pickling, is in request for the table while fresh.

SUCCADES, sweetmeats or preserves in sugar.

SUCCESSION DUTIES. The *vicesima hereditatum*, the twentieth penny of inheritances, imposed by Augustus on the Romans, is the earliest example we have of a tax upon the transference of property from the dead to the living. Many of the casualties of the feudal law were of the same nature ; but the Dutch appear to have been the first to adopt succession taxes in their modern form. In this country, where they belong to the stamp department of the revenue, they are levied solely upon moveable property, which is effected partly by a stamp-duty proportioned to the amount of the deceased's effects, but graduated differently for testate and intestate successions,—and partly by per centage duties on legacies or residues. Succession duties are objectionable in principle [Tax], being in the general case a tax on capital ; but, on the other hand, they possess the advantage of being easily collected.

SUGAR (Du. *Suiker*. Fr. *Sucre*. Ger. *Zucker*. It. *Zucchero*. Por. *Açucar*. Rus. *Sachar*. Sp. *Azucar*. Arab. *Sukkur*. Malay, *Soola*) exists in all vegetables having a sweet taste, but is obtained chiefly from the sugar-cane (*Saccharum officinarum*), which contains it in greater quantity than any other plant. The sugar-cane thrives from the equator to the 32d degree of latitude. It is one of the largest of the grasses, growing from 8 to 12 feet in height, and acquiring a diameter of one or two inches ; the sugar being contained in the loose, cellular, juicy pith with which the stalk is filled. In the British West Indies, from August to November is generally considered the best time for planting the cane. When ripe, commonly about March or April, it is cut off at the root, stripped of leaves and ends, and then passed twice through a mill so as to express all the juice. To prevent fermentation, a portion of lime (about 1 to 1600) is mixed with the juice, which is then evaporated by a moderate and cautious ebullition. When the syrup is sufficiently concentrated, it is drawn off into shallow wooden coolers, where it becomes a soft solid, composed of loose crystalline grains. It is then put into barrels with holes in the bottom, through which a black ropy juice, called *molasses*, gradually drops, leaving the crystallized sugar comparatively white and dry. In this state it constitutes *raw* or *muscovado sugar*. This generally concludes the process with the planters in the British colonies ; but in many foreign settlements it is usual to purify the raw sugar partially, by covering its surface, in conical shaped vessels, with a layer of moist clay,—the water from which gradually filters through it, carrying off some molasses. Sugar thus treated is called *clayed sugar*, and has lost its crystalline appearance. In this country the raw sugar is purified by boiling a solution of it with white of eggs, or the serum of bullocks' blood, lime-water being commonly used at the same time. When properly concentrated, the clarified juice is received in conical earthen vessels, the apex of which is undermost, in order that the fluid parts may be collected, and afterwards drawn off by the removal of a plug. In this state it is called *loaf*, *lump*, or *refined sugar* ; and the name *double refined* is given when the operations are repeated. Sugar, however, is now mostly refined by what is called the *patent* process ; the chief improvement of which consists in conducting the evaporation *in vacuo*, by which means the syrup is concentrated at a low temperature. By this plan there is much less empyreumatic syrup formed ; and even a considerable quantity of sugar can be obtained from molasses.

A more regular form of crystallization is given to sugar by carrying the evaporation only a certain length, and then permitting the syrup to cool slowly ; but the addition of spirit of wine is necessary in order to make it crystallize, otherwise it forms *barley sugar*. In crystals it is called *brown* or *white sugar candy*, according to its purity ; the latter being the purest form in which sugar exists. Sugar candy is the only kind of refined sugar made in China and India : the Chinese sugar-candy, which is of the finest quality, is consumed in the European settlements in the East to the almost total exclusion of other sugar. *Bastards* is a coarse kind of crusted loaf sugar, made from the syrups and other refuse of the best sugar.

Raw sugar should be dry, in large sparkling hard grains, of a clear yellow colour, without smell, and of a strong sweet taste, without any peculiar flavour. It varies very much in quality. It is chosen, for the purpose of refining, by the sharpness and brightness of the grain ; and those kinds are preferred which have a peculiar gray hue. Soft-grained yellow sugars, although whiter, are not so fit for refining ; for which reason sugars from particular countries are seldom used. The best are those of Jamaica and other parts of the West Indies ; while the East India, Java, Manilla, and Siam varieties are generally of low quality.

Refined sugar should be very hard and brittle, of a close compact texture, and break with sharp, semi-transparent, splintery fragments. It should have a brilliant white colour, a pure sweet taste, and should dissolve entirely in spirits.

The use of cane-sugar is said to have originated in China, from whence the plant was conveyed to India, Arabia, and Egypt ; through which channels it became early known in Europe, where, however, its culture made little progress until the period of the Crusades (1099-1244), when the increased communication with the East tended to spread a taste for sugar throughout the Western world. In the 12th century, sugar-planting was extensively followed in Sicily ; thence, or through the Moors, it passed to Spain, Madeira, and the Canaries ; and shortly after the discovery of America the cane was carried to Hayti and Brazil, from whence it gradually spread through the West Indies. Aided by slave labour, sugar soon became the most important staple of those countries ; and the supplies required by the European states were long almost exclusively derived from their American settlements,—each generally granting, by means of fiscal regulations, a monopoly of its home market to its own colonies. The subsequent progress of the trade it is unnecessary to detail in this place. Suffice it to say, that, notwithstanding the shock given to industry in the British possessions by the measure of slave emancipation (1838), the exportation of sugar from the different countries from which the European market is chiefly supplied, was estimated in 1839 as follows :—British West Indies and Mauritius, 3,571,378 cwts. ; British India, 519,125 ; Danish West Indies, 450,000 ; Dutch do., 260,060 ; French Sugar Colonies, 2,160,000 ; United States, 900,000 ; Brazil, 2,400,000 ; Spanish West Indies, 4,481,342 ; and Java, 892,475 : total, 15,634,380 cwts. Of this fully one-fourth was sent to the United Kingdom, where sugar is more generally used than in any other part of Europe.

The produce of the British sugar colonies formerly exceeded the wants of the home market, and the surplus was generally shipped to Hamburg and other continental ports ; but of late years the ratio of the supply to the demand has been entirely changed, partly through the increased wants of our augmented population, and partly owing to the falling off in the sugar crop of our West India colonies, in consequence of the disinclination of the emancipated negroes to the hard labour requisite for the cultivation of the cane. Through the latter cause mainly, the imports from these colonies gradually declined from 4,103,800 cwts. in 1831, to only 2,214,764 cwts. in 1840, and 2,151,217 cwts. in 1841 ; and as foreign produce was at the same time shut out by a prohibitory duty, the consequence was a rise of price, until, in November 1840, British plantation sugar in bond averaged 57s. 10½d. per cwt. ; Brazilian, of nearly equal quality, being at same time only 22s. This difference led, in 1840, to 2316 cwts. of foreign sugar being entered for consumption, notwithstanding the high duty of 63s. the cwt. with which it was burdened. Afterwards our supply was augmented, chiefly by an increased importation of East India sugar, the duty on which had been lowered to the same rate as West India in 1836. Still, down to 1843, the price of raw sugar in Britain averaged from 10s. to 20s. per cwt. higher than on the Continent.

The annexed table shows the total imports into the United Kingdom since 1824, the quantity of different kinds retained for home consumption, the produce of the duty thereon, and the average price of British plantation muscovado sugar, in bond, as taken from the London Gazette :—

Year	Total Imports	From British India	From Foreign	From the Colonies	From the Continent	From the United States	From the West Indies
1900	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487
1901	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487
1902	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487
1903	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487
1904	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487
1905	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487
1906	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487
1907	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487
1908	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487
1909	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487
1910	2,470,321	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487	1,077,487

The 4,425,321 cwt. imported in 1910 (the latest year of which the details are furnished in the official tables) were composed of 2,214,794 cwt. from British W. India, 245,007 from Mauritius, 225,720 from E. India, 225,012 from British West India colonies, chiefly Cuba, 212,223 from French (S. I.) from the Philippines, 21,012 from Java, 20,000 from Siam, 10,000 from Colombia, and 20,000 cwt. from other places. In the same year 220,000 cwt. were re-exported, chiefly to Germany, Russia, the Netherlands and Italy.

A considerable quantity of the imports is converted into refined sugar, a manufacture which forms an important branch of industry in Britain. Besides which, from 1900 to 1905, 200,000 cwt. of sugar syrup or molasses are likewise imported annually from our West India colonies, mainly for refining. Of the raw sugar then employed about 225,000 cwt. (mostly foreign produce) are refined at home for exportation under the 2 & 4 Wm. IV. c. 31. Where a duty has been paid on colonial sugar refined it is drawn back on exportation at the rate shown in the tariff, which, up to 1902, was 10s. 6d. per cwt. on single, and 10s. 6d. on double refined. The exports of refined sugar, in 1902, amounted to 225,170 cwt., of which Italy took 70,000 cwt., Turkey 20,170 cwt., British America 20,100 cwt., British W. India, 20,000 cwt., Russia 12,100 cwt., Australia 12,000 cwt., and Spain 11,000 cwt. Formerly the exports were much more considerable, owing to the demands of Germany and France, shipments to which have almost entirely ceased, these countries now refining for themselves.

A duty on British plantation sugar imported into England of 1s. 6d. per cwt. was imposed in 1801, which was repealed in 1805. The duty was 2s. 6d. the cwt. from 1703 to 1747, 2s. 10d. from 1747 to 1760, 4s. 6d. from 1760 to 1770, 5s. 6d. from 1770 to 1780. It was raised in 1780 to 10s. 6d. per cwt., in 1801 to 12s. 6d., in 1807 to 17s. 6d., in 1813 to 10s. It was afterwards gradually increased to 15s., which rate, with the exception of a short period at the conclusion of the war when it stood at 10s., was maintained till 1840. It was then reduced to 12s., at which it remained until 1850, when it was lowered to 10s. The rate still maintained (1843). On East India sugar the duty from 1703 to 1801 was 5s. and 10 per cent ad valorem; afterwards it was 11s. and 10 per cent, higher than the duty on British plantation, but in 1803 the duties were assimilated by the reduction of that on East India from 10s. to 10s. per cwt., leaving however the former rate payable on British sugar imported from any British possession within the limits of the East India Co.'s territory, in which the importation of foreign sugar is not prohibited. Moreover produce was charged the same as East India prior to 1803, when it was made the same as British plantation. On foreign sugar, the duty was fixed in 1803 at 10s., which rate still continues 1843. To all the preceding rates 5 per cent. was added from May 15, 1840, to the act 3 & 4 Vict. c. 1. See Tariff on the end.

The most allowed in London on British plantation sugar is as follows:—Cane under 2 cwt., 10 lbs., under 2 cwt., 1 cwt. 7 lbs., under 10 cwt., 1 cwt. 14 lbs., under 11 cwt., 1 cwt. 1 lb., increasing 7 lbs. for every additional hundredweight. The duty 9 lbs. per cwt. and there, and 1 lb. per barrel. The terms are two months' prompt, or 5 per cent. per annum allowed for cash. East India sugar 2 months. No discount.

West India sugar is imported in hogsheads, varying in weight from 12 to 16 cwt., or in tuns of from 7 to 9 cwt. Mauritius is commonly in casks or bags, each weighing from 1 to 14 cwt., and East India in bags of from 1 to 14 cwt. The box of sugar rarely weighs more than 10 lbs.

Refined sugar from a is derived from the juice of the cane sugar, which the white variety by crystallization nearly the same as those by which cane-sugar is made, though greater purity is required in rendering the best white crystallizable on account of its greater viscosity and the smaller quantity of molasses which it contains. When this sugar is refined it is indistinguishable from the other. From tons of cane roots yield about 44 cwt. of coarse sugar, which give about 140 lbs. of double refined, and 20 lbs. of inferior lump sugar, the remainder is molasses. The best cane sugar manufacture spring up in France under the system now in vogue, afforded by the constitutional system of May 1801, and in 1801 142,010 acres were cultivated for this purpose, yielding employment to no fewer than 220 manufacturers. It is also pursued though to a minor extent, in Prussia and Russia. As the expense of the manufacture however greatly exceeds the value of the produce, according to the price of colonial sugar, it is only by heavy imports on the tariff, or a system of bounties that it can be carried on to advantage. The reduction of the duty on colonial sugar was attempted by the French government in 1840, but without success.

In the United Kingdom, the manufacture of beet-root sugar is regulated by the act 1 Vict. c. 37, it is subjected to the same duty as colonial sugar, but none is made.

MAPLE SUGAR is composed of the evaporated sap of the maple-tree (*Acer saccharinum*), cast into moulds about the size of a brick. It is made chiefly in N. America. The quantity produced in Canada has been reckoned at 32,500 cwts., equal to more than 2000 hhds. of West India sugar.

Further information on the subject of this article will be found in *Moseley's Treatise on Sugar*, *Edwards' History of the West Indies*, *Porter on the Nature and Properties of the Sugar-Cane*, *Ure's Dictionary of Arts*, and under the heads **INDIA (BRITISH)** and **WEST INDIES**.

SUGAR OF LEAD, more properly *acetate of lead*, is prepared by digesting litharge or other oxides of the metal in pyroligneous acid. It has a singularly sweet and somewhat astringent taste. Sp. gr. 2.57. It crystallizes in white acicular masses, the state in which it generally occurs in commerce. It is used in medicine, dyeing, and calico-printing.

SULPHUR, or **BRIMSTONE** (Fr. *Souffre*. Ger. *Schwefel*. It. *Zolfo*), an elementary, combustible, solid, non-metallic substance, of a peculiar yellow colour, and very brittle. It has neither taste nor smell, though when rubbed it has a faint peculiar odour. Sp. gr. after being fused, 1.990. When pure it is bright yellow, and very inflammable; burning with a clear blue flame, and leaving no residuum. It is an abundant product of nature, especially in volcanic districts; and in other places exists in combination with oxygen and sundry metals. It occurs in various forms. Native sulphur, largely imported from Sicily, is in square or oblong masses or blocks, called *rough brimstone*. Stick or roll sulphur is chiefly obtained from sulphuret of copper in this country. Sublimed sulphur, or *flowers of sulphur*, is a fine crystalline bright yellow powder, obtained by condensing the vapour of sulphur rapidly in capacious receivers. *Refined sulphur* is that purified by distillation in an iron still, and condensed in an iron receiver kept cool by water. Sulphur is employed for making gunpowder, sulphuric acid, and cinnabar, and for a variety of other purposes in the arts; it is also employed in medicine.

The chief supply of this mineral is obtained in Sicily, our imports from which have greatly increased since 1825, when, owing to a reduction of the import-duty from £15 to 10s. a-ton, and the increased demands of our manufactures, the annual consumption of Sicilian sulphur increased in 12 years from 7000 tons to between 30,000 and 40,000 tons. A great increase likewise took place in the imports into France. In July 1838, the Sicilian government, in consideration of a loan of 400,000 Neapolitan ducats a-year, granted to a French company a monopoly of the sulphur-mines, the produce of which was to be limited to 600,000 quintals, to be supplied to them at fixed prices; but this monopoly, after an armed remonstrance from Britain, in consequence of its being at variance with commercial treaties, was abolished in July 1840; and the trade is now on its former footing.

SULPHURIC ACID (Fr. *Acide Sulfurique*. Ger. *Schwefelsäure*), when pure, is a colourless oily fluid, acrid, corrosive, and intensely sour; and consists of three equivalents of oxygen, one of sulphur, and one of water. When as pure as usually prepared, it is of the specific gravity 1.847. This acid was formerly obtained by the decomposition of green vitriol, whence its old name of *oil of vitriol*; but it is now procured by burning a mixture of about 8 parts sulphur and 1 of nitre, in a furnace so placed that the resulting fumes may pass into close leaden chambers containing water. The fumes as they arise are absorbed by the water, which gradually becomes a dilute sulphuric acid; and the acid is procured in a concentrated state by evaporation of this solution. The annual amount of this manufacture in Britain is calculated by Mr Brande at 50,000 tons; which, estimated at 10s. per cwt., makes its value £500,000.

There is perhaps no substance more abundantly employed in the arts and manufactures. It is used in medicine. It is employed by bleachers for souring the cloth; by dyers for dissolving their indigo; by calico-printers; by brassfounders, button-makers, gilders, and jappanners, for cleaning the surface of the metals with which they work; and by hatters, tanners, paper-makers, and many others. It is also used extensively in many chemical manufactures.

SUMACH (Fr. *Sumac*. Ger. *Schmack*. It. *Sommaco*), a shrub (*Rhus coriaria*) which is a native of Persia and Syria, as well as the S. of Europe. Its shoots, after being cut, dried, and reduced to powder, are used for the purposes of dyeing and tanning. An ounce contains 78 or 79 grains of tannin. Of all astringents it bears the greatest resemblance to galls. It is considered of good quality when its odour is strong, colour of a lively green, well ground, and free from stalks. The best is the Sicilian. Nearly 500 tons are annually consumed in this country.

SUMATRA. [EASTERN ISLANDS.]

SUNN, a material similar to hemp, the produce of the *Cortalaria juncea*, in general use in the hotter parts of Asia for cordage. In India, two kinds are distinguished, *phool* and *boggy*. The first of these is the most esteemed.

SUPERCARGO, a person employed in a ship to oversee the cargo or trade.

SUPPLIES, the sums annually granted to the sovereign by parliament.

SURVIVORSHIP, in life assurance, is a reversionary benefit contingent upon the circumstance of some life or lives surviving some other life or lives, or of the lives falling according to some assigned order. [INTEREST, COMPOUND.]

SUWARROW or **SAOUARI NUTS**, are a species of **BUTTER NUTS** or berries, the produce of a large tree (*Caryocar ruciferum*), which grows in Guiana.

SWEDEN, a country of the N. of Europe, forming the eastern and more important section of the Scandinavian peninsula, lies between latitude $55^{\circ} 20'$ and 69° N., and longitude $11^{\circ} 10'$ and $24^{\circ} 12'$ E.; having N.E. Russian Finland; E. and S. Gulf of Bothnia and Baltic; S.W. Sound, Cattegat, and Skager Rack; W. and N. Norway. Area, 170,000 sq. miles. Population in 1839, 3,109,772. Government, a hereditary monarchy, with a state-council and a representative diet.

Sweden may be generally described as rather a flat country; except the frontier towards Norway, and the N. part, which is diversified with mountains, deep valleys alternating with sandy wastes, and in some parts forests. The central region contains extensive plateaux of table-land, covered with trees. And the S. provinces consist chiefly of sandy plains, interspersed with lakes and hills, which are sometimes bleak and barren, but elsewhere clothed with woods. The country is watered by numerous lakes and rivers; and the use of both for internal navigation is facilitated and extended in some places by canals; the chief work of this kind being the celebrated Gotha Navigation from Gottenburg to Söderköping, connecting the Cattegat and the Baltic. The climate in the S. and W. parts is similar to that of the N. of Germany; but towards the N. it is severe, though much milder than might be expected from its high latitude.

The soil, though mostly thin and poor, has been greatly improved by culture, especially around Carlstad and Lake Wetter. The chief agricultural products are—rye in the S. and barley in the N.; potatoes, oats, and maslin, with small quantities of wheat and pease; and the supply is now more than equal to the consumption. Flax is also grown, and in some places madder, buckwheat, wood, and tobacco. Domestic animals are numerous, but inferior. The chief articles for export are derived from the mines and the forests, particularly the former, which are mostly situated in the central provinces; their chief product is iron [IRON]; copper and lead, however, being also worked to some extent; but there is no coal. The forests, though covering nearly one-half of the surface, contain a comparatively small number of timber trees; and the export of wood is, from this cause, not so considerable as might at first be supposed.

The manufactures are chiefly domestic, the peasantry supplying themselves, as winter employment, with nearly all the coarse woollens, linens, and cottons required by them. There are, besides, a good many cloth factories, with sugar refineries, distilleries, leather, paper, soap, tobacco, and glass works: the other manufactures are trifling.

The trade of Sweden has been reduced below its natural limits by the restrictive duties imposed by the government, with the view of protecting home manufactures; but latterly this system has been relaxed; and, at the same time, exportation encouraged by the reduction, in 1840, of one-half the customs on bar-iron, and the cessation, in 1842, of those on wood. Exports, principally iron (about 70,000 tons annually); with timber, linseed, copper, alum, corn, tar, cobalt, and other articles. Imports, chiefly sugar, coffee, and other tropical products; salt, wines, silk, wool, cotton, cotton twist, cotton manufactures, hemp, hides, skins, and oil. In 1840, the exports were officially valued at 20,434,000 rixdollars banco (£1,700,000); and the imports at nearly the same. The chief commercial relations are with Britain, the United States, Holland, the Hanse Towns, and Denmark. The trade with Britain consists in exchanging iron (16,000 tons), linseed, battens, and deals, and occasionally a little oats and barley, for manufactures (mostly cotton twists and woollens), wine, coffee, indigo, and spices.

Ports.—*Stockholm*, the capital, chief manufacturing seat, and principal commercial emporium, lies on the E. coast, partly on a number of small islands, at the junction of Lake Mælar with the Baltic, in lat. $59^{\circ} 20'$ N., long. $18^{\circ} 4'$ E. Pop. 85,000. The entrance to the port is difficult, but the harbour is deep and capacious, the largest vessels lying close to the quays.

Gottenburg is advantageously situated at the W. entrance of the Gotha navigation, at the head of a fiord near the Cattegat, in lat. $57^{\circ} 42'$ N., long. $11^{\circ} 56'$ E. Pop. 28,700. The harbour is formed by two long chains of rocks, protected at its mouth by Fort Nya-Elfsborg.

MEASURES, MONEY, &c.

Measures and Weights.—The alm or ell of 2 feet = 23.38 Imp. inches; and 100 ells = 64.94 Imp. yards; the fathom is 3, and the ruthe 8 ells. The Swedish mile = 2250 ruthe = 11689 Imp. yards, or about 6 Imp. miles, 5 furlongs.

The tunnaland = 1.220 Imp. acre.

The kann, liquid measure, contains 2 stoops, or 8 quarters; and 100 kanns = 57.56 Imp. gallons; the anker is 15, the eimer 30, the tunna 48, the alm 60, the oxhufvud 90, the pipe 180, and the fuder 360 kanns.

The tunna, corn measure, of 2 spann, 8 fjerdingar, 32 kappar, or 56 kanns, = 4.029 Imp. bushels; but as 4 kappar are allowed to every tunna of wheat, oats, rye, or barley, for good measure, the tunna of corn may be estimated at 4 Imp. bushels.

The commercial weight is termed *virtualie-wigt*; and the pound or *skolpund*, virtualie-wigt, of 2 marks, 32 lods, or 128 quintins = 8848 Dutch as = 6563 troy grains; also 100 lbs. virtualie-wigt = 9376 lbs. avoirdupois. The lispund is 20 lbs. virtualie-wigt; the sten, 32 lbs.; the centner, 120 lbs.; the waag, 165 lbs.; and the skeppund is 20 lispunds or 400 lbs. virtualie-wigt.

The mark, *berg-werk-wigt*, or miner's weight,

= 5801 troy grains. The mark, *land-staten-wigt*, or country and city weight, = 5526 troy grains. The mark, *jern-wigt*, or *stapelstad-wigt*, for weighing iron and commodities in *entrepôt*, = 5250 troy grains: the jern-wigt is $\frac{1}{4}$ ths of the virtualie-wigt.

The apothecaries' pound of 12 ounces, each of 8 drams or 24 scruples, = 5501 troy grains.

The gold and silver mint mark of 16 lods, or 64 quintins, = 3252 troy grains.

Money.—Accounts are stated in riksdalers of 48 skillings, each of 12 rundstycken or ore.

The principal coins are the gold ducat, worth 9s. 2d. nearly; the silver species-riksdaler 4s. 4½d., and daler of 8 skillings, 8½d.; also, in copper, the daler of 2½ skillings, 3d.; pieces for 1, 2, and 3 skillings; rundstycken, and half rundstycken.

Gold and silver coins, however, are now rarely used, the circulating medium being composed almost entirely of copper, and a depreciated paper money. The paper is of two kinds: *Banco*, consisting of the notes of the National Bank, is that in which merchants' accounts are generally reckoned: *Riksgald*, or government paper, is that commonly employed by shopkeepers, and in small payments. Since 1835, rixdollars banco

are exchanged for rixdollars specie, at the rate of 2½ of the former for one of the latter. Riksgald is of only ½ds the value of banco; 2 riksdalers banco being reckoned equal 3 riksdalers in riksgald. The rixdollar is thus worth—in banco, about 1s. 8d.; and in riksgald, 1s. 1½d. sterling.

SWEETS, an English fiscal name for home-made wines and sweetened spirituous compounds. The trade between the different portions of the United Kingdom is regulated, in respect to countervailing duties and drawbacks, by the act 6 & 7 Wm. IV. c. 72. Every retailer is required to take out an annual excise-license, costing £1, 1s.

SWITZERLAND, a country of Central Europe, bounded N. and E. by Germany; S. by Italy; and W. by France. Area, 15,257 sq. miles. In 1838, the population was 2,188,000. It is a confederation of 22 states or cantons, namely, Schaffhausen, Thurgau, Zurich, Aargau, Basle, Soleure, Berne, Lucerne, Zug, Schwitz, St Gall, Appenzell, Glarus, Uri, Unterwalden, Friburg, Neufchatel, Vaud, Geneva, Valais, Tessin, Grisons; all democratic republics except Neufchatel, in which the King of Prussia exercises sovereignty.

Switzerland is the most mountainous country of Europe. The ranges of the Alps, and their numerous offsets, extend over the S. and S.E. districts, occupying about one-half of the surface. Along the W. boundary runs the Jura ridge; and the country between these two mountain-systems has towards the S. the form of a plain, interspersed with isolated hills; and towards the N. it is traversed by groups of hills of moderate elevation. The Alpine and other mountain-chains are separated by deep valleys or narrow plains, which form the beds of extensive lakes, as Geneva, Constance, Neufchatel, Lucerne, and others; or the basins of large rivers, such as the Rhone, Rhine, Inn, Ticino, and Doubs, which all rise in Switzerland. This difference of elevation produces a singular variety of aspect and climate; for, while the valleys are scorched by heat, perpetual winter reigns in the heights: but, upon the whole, the country is cold for its latitude.

Switzerland is almost wholly a pastoral country. Except in Thurgau, little corn is produced; and cattle (800,000), sheep, and goats, constitute the chief riches of the rural population. The land is mostly divided among numerous small proprietors, whose diminutive patches occupying but a part of their time, they are necessarily led to employ the remainder in weaving and such like employments, in which they engage for a mere pittance of wages. This, joined to low fiscal burdens, and the absence of all restrictions on trade or free intercourse with foreigners, has led to manufacturing industry being in a considerable state of advancement in Switzerland, notwithstanding its geographical disadvantages. The chief sites are the German cantons of Appenzell, St Gall, Thurgau, Zurich, Aargau, and Basle, distinguished for their cotton and silk fabrics; and the French cantons of Geneva and Neufchatel, for their watches and jewellery.

The principal exports are silks, cottons, lace, watches, jewellery, straw-plat, cattle, cheese, wine, and liqueurs. The imports consist of wheat (mostly from S. Germany), salt, wine, oil, colonial produce, woollens, leather, hemp, flax, tobacco, cotton wool, cotton twist, hardware, iron and other metals, fancy wares, drugs and dyes. The chief commercial relations are with the adjoining states and England. Much of the intercourse with foreign countries is conducted by way of Trieste and Genoa. Switzerland, besides, possesses a considerable share of the transit trade between Germany and Italy, Austria and France. The roads are almost every where good; but carriage is costly, owing to the rugged nature of the country.

Chief cities, Geneva, Basle, Zurich, Berne, St Gall, Lausanne, Schaffhausen and Appenzell.

MEASURES, MONEY, &c.

Measures and Weights.—In 1837, Berne, Zurich, Lucerne, Friburg, Zug, Soleure, Basle, Aargau, Thurgau, Schaffhausen, Glarus, and St Gall, adopted the following measures and weights founded upon the French metrical system:—

The foot = 3 decimètres; and 16,000 feet = 1 stunde = 5249 Imp. yards. The ell = 6 decimètres; and 100 ells = 65·62 Imp. yards. The mass = 1½ French litre; and 100 mass = 33·01 Imp. gallons. The viertel = 10 mass = 1·65 Imp. peck; and 100 viertels = 41·26 Imp. bushels. The pound of 32 loths = ½ kilogramme; and 100 pounds = 110·24 lbs. avoirdupois.

In the other cantons, the measures and weights occasion great confusion.

Money.—The most general mode of accounting is in francs, of 10 batzen, or 100 rappen. The Swiss franc (in silver) = 1 French franc 48 centimes = 1s. 1½d. sterling; but in exchanges its value is in general slightly enhanced, from being reckoned in gold, at the rate of 16 to the French louis d'or = 18s. 9½d.

In Geneva, accounts are kept in French francs and centimes. Usance of bills from Holland, Britain, and France, 30 days' sight; from Germany and Italy, 15. Days of grace abolished.

T.

TÆL, a Chinese weight; also a money of account. [CHINA.]

TALC, a mineral allied to mica, used in tracing lines on wood, &c.

TALLOW (Fr. *Suif*. Ger. *Talg*. It. *Sego*. Por. and Sp. *Sebo*. Rus. *Sala*, *toplénæ*), animal fat separated by fusion from the membrane in which it occurs, and clarified. It is procured chiefly from oxen and sheep. It is firm and brittle, has a peculiar odour; and is applied to various uses, but particularly to the manufacture of soap and candles, and the dressing of leather. Tallow is an important article of trade in the United Kingdom, where, in addition to the native supply, estimated at 120,000 tons, about 60,000 tons are annually imported: which last,

excepting trifling quantities from the La Plata states and Sicily, is brought almost exclusively from Russia.

The exports from Russia average about 65,000 tons annually, 9-10ths of which are shipped from St Petersburg, where five kinds are distinguished: 1. Yellow candle, in two sorts: this kind is obtained from oxen, and about 6-7ths of the whole shipments are composed of the first sort. 2. Lopatny, in one sort, called second candle. 3. White candle, in two sorts, procured from sheep and goats. 4. Siberia soap, in three sorts: this kind is a mixture of Kalmuc sheep and oxen fat. 5. Ordinary soap, in three sorts: it is chiefly derived from Kalmuc sheep.

Russian tallow is shipped in casks weighing from 8 to 10½ cwt. gross each. The tare fluctuates from 10 to 12 per cent. The bracking and taring take place on delivery for shipment.

TAMARIND, the fruit of the *Tamarindus Indica*, is a pod containing a viscid acid pulp, connected with the seeds by tough strings or fibres.

TAPIOCA, a nutritive substance prepared from the starch of the farinaceous roots of the *Jatropha manihot*, or cassava plant, extensively cultivated in S. America, especially Brazil. It is imported in pearl-like globules, tinged with red.

TAR (Fr. *Goudron*. Ger. *Theer*. Rus. *Degot*, *Sinola shirkaja*. Sw. *Tjërra*), a thick empyreumatic oil, of a dark-brown or black colour, obtained by burning pine and fir trees in a close smothering heap, with a channel through which the tar exudes. It is chiefly used for resisting moisture in ships and outhouses. It is largely made in Russia, from whence about 12,000 lasts are annually imported into Britain, besides nearly 2000 lasts from Sweden and the United States. The last contains 12 barrels, each of 26½ Imp. gallons.

TARE (from the Italian *tarare*, to abate), is a deduction from the *gross* weight of goods on account of the package in which they are contained: the remainder is called *net* weight. It is often fixed as to particular commodities by a conventional rule among merchants, in which case it is called customary tare, in contradistinction from the real tare ascertained by measurement. *Trett*, *Draft*, and *Cloff*, are old allowances of the same kind, now nearly obsolete.

TARES OR FITCH, a species of pulse (*Vicia sativa*) cultivated as herbage.

TARIFF, a table of duties payable on goods imported or exported. The British tariff has undergone five important alterations since the commencement of the present century, namely, in 1809, 1819, 1825, 1833, and 1842. The last, which contains numerous important reductions on the duties on the importation of live-stock and provisions, will be found at length at the end of the present volume.

TARTAR (Fr. *Tartre cru, blanc et rouge*. Ger. *Rohr Weinstein*. It. *Tartaro volgare*), an acidulous salt which exists in the juice of the grape, and is deposited in wine-casks in the form of a crystallized incrustation, more or less thick, which is scraped off. This is crude tartar, or *argol*. It is either white or red according to the colour of the wine: the former is preferred, as it contains fewer impurities than the red; but the properties of both are essentially the same. When good, it is thick, hard, brittle, and brilliant, with but little earthy matter. The German or Rhenish argol is reckoned the best; after which that from Bologna. It is also brought from Florence, Naples, Sicily, and the Cape of Good Hope. It is used in hat-making, gilding, dyeing, and in the preparation of tartaric acid.

TARTAR [CREAM OF], (Fr. *Crème de tartre*. Ger. *Weinstein rahm*. It. *Tartaro purgato*), the bitartrate of potassa of chemists, is argol or crude tartar purified by solution and crystallization. It occurs in small, irregular, gritty crystals, or in the form of a fine white powder. It has an acid harsh taste. Cream of tartar is used in medicine and the arts.

TARTARIC ACID is procured chiefly from white argol by the action of prepared chalk and sulphuric acid. The crystals formed are of considerable size, permanent, without smell or colour, and very acid to the taste. It is used in many of the arts, particularly dyeing and calico-printing; and is much employed as a cheap substitute for citric acid in lemonade and effervescing solutions.

TAX, a portion of the produce of the capital and labour of a country, placed at the disposal of the government. Security, protection, and good order being productive of *universal* advantage, it is obvious no individual can complain that he is made to contribute in the same proportion to his means as others for their attainment. Still, like all other values, the smaller the sacrifice for which they can be obtained so much the better. Every mode by which the expenses of government can be diminished and taxation reduced is an advantage to the public, precisely of the same kind that a diminution in the cost of procuring any commodity is to an individual. Hence, the best plan of finance, says M. Say, is to *spend little*; and the best of all taxes the *least*.

The general principles which, according to Adam Smith, should regulate all taxes are the following:—1st, The subjects of every state ought to contribute towards the support of the government as nearly as possible in proportion to their respective abilities,—that is, in proportion to the revenue which they respectively enjoy under the protection of the state. 2d, The tax which each individual is

bound to pay ought to be certain and not arbitrary. The time of payment, the manner of payment, the quantity to be paid, ought all to be clear and plain to the contributor, and to every other person. 3d, Every tax ought to be levied at the time and in the manner in which it is most likely to be convenient for the contributor to pay it. 4th, Every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible over and above what it brings into the public treasury. Perhaps these principles are as just and comprehensive as they can be made ; and that system of taxation is best which conforms most nearly to them.

Taxes must ultimately fall either on *revenue* or *capital*. There is perhaps no single tax which is not partly derived from each of those sources. But, assuredly, the largest proportion of all taxes, judiciously imposed, is paid out of revenue ; the desire to preserve their place in society, to preserve their capitals unimpaired, and to improve their condition, stimulating most men to endeavour to discharge the burden of a moderate tax by an increase of labour or of saving. A tax, however, is not necessarily a tax on capital, because it is laid on capital, or a tax on income because it is laid on income. A moderate tax laid on capital may be, and generally is, defrayed from a saving of income ; while an oppressive tax laid on income has in most cases to be paid out of capital. But of all taxes those are the most injurious which necessarily fall on capital ; for every such tax, by diminishing the funds destined to support productive industry, lessens the revenue of the people,—the only source from which taxes can be permanently paid ; and thus lays the sure foundation of national poverty and distress.

A tax is said to be *direct* when it is immediately taken from income or property ; and *indirect*, when it is imposed on the articles on which the income or property is expended. All taxes are disliked, and the more directly they are imposed, the more hateful they become. Hence, in most countries, the number and amount of direct taxes are small compared with those which are levied indirectly. The latter always meet with a more cheerful acquiescence on the part of the people, being felt the least, because no formal demand is made upon them ; while they can often be so wisely contrived, that the consumer shall scarcely know that he pays them. Besides, when placed upon the proper description of articles,—as luxuries,—the payment of them becomes optional. The facility, however, with which indirect taxes may be levied, renders it necessary to consider the incidence and effects of them with peculiar caution.

If a duty be levied on a particular commodity, its price will sustain an equal rise ; for if it did not, the profits of the producers would be sunk below the common level, and their business would be abandoned. But it depends on the circumstance of the commodity being a *luxury*, whether a tax on it will fall wholly on the consumer. In so far as *necessaries* are used by persons of property, taxes on them are also defrayed by the consumers ; but, in so far as they are required by labourers, the effect of taxes on them differs in no respect from the effect of equal imposts laid directly on wages,—at least in those cases where the wages are as low as is consistent with the preservation of the number of labourers.

Taxes should be allowed to interfere as little as possible with the progress of national wealth ; and it should always be an object to derive them from the results of the successful employment of capital and industry, and not to press them upon any intermediate stage of production. Hence taxes upon raw materials are objectionable. They increase the price of such materials, and thus limit the power of the manufacturer to purchase them, and to employ labour in augmenting their value ; while, by increasing the price of the exported manufactures, they limit the demand for them abroad. Taxes upon home manufactures are liable to similar objections, since, by increasing the price they diminish the consumption, and consequently discourage the manufactures, and the employment of labour and capital. On the other hand, luxuries are a fair subject of taxation. Taxes upon such articles do not interfere with industry or production ; but care must be taken to proportion the charge in each case to the value of the commodity. Excessive duties are less productive than moderate duties ; while the causes of their failure are injurious to public wealth by discouraging consumption, and to its morals, by offering an inducement to smuggling. Experience alone can show the precise rate at which the revenue is most productive, consistently with an unchecked consumption and an absence of contraband dealing ; but it may be assumed, that whenever a tax adds very greatly to the price of an article of general consumption, it puts it out of the reach of many who are desirous to purchase it, and creates, by the chance of a large profit, a temptation to evade the payment of the duty. When a country

possesses any exclusive, natural, or acquired advantage, in the production of commodities, as Great Britain in coal, China in tea, and Russia in tallow, an export duty is perhaps the most unexceptionable of all taxes, from its falling wholly on the foreigners by whom the articles exported are bought and consumed. Care should be taken, however, not to impose such a duty on commodities which can be produced at nearly the same cost abroad, for its effect would then be to put an entire stop to their exportation, by causing the market to be supplied by others. Care must likewise be taken that the imposition of an export-duty does not provoke injurious retaliation from foreign states.

The only legitimate object of taxation is revenue ; but duties are often imposed on the importation of merchandise without reference to this object, and solely with the view of directing trade into particular channels. Thus *protective* duties are imposed for the purpose of artificially raising the price of the productions and manufactures of foreign countries, so as to restrain or prevent their competition with similar articles produced at home ; and *discriminating* duties, or duties not levied equally upon the produce or manufactures of different countries, are imposed (in Britain now solely with reference to the colonial trade), with the view of giving an advantage to the country on whose commodities the tax is lightest as compared with others. The impolicy of all such duties has been already explained in the article COMMERCE.

TEA (Chin. *Cha*, *Te*. Dn. *Te*. Fr. *Thé*. Ger. *Thee*. It. *Te*. Por. *Cha*. Rus. *Tchai*. Sp. *Te*), the leaf of an evergreen shrub (*Thea*), 3 to 6 feet in height, resembling a myrtle, and bearing a white blossom something like a wild rose. The leaves, elliptic, serrated, and alternate, are classed as *black* and *green* ; but it is still uncertain whether these are obtained from one or more species, or from varieties of the same species. The plant is a native of China and Japan ; it is also cultivated in Java, Assam, and other places ; but at present the only commercial source of tea is China, where it is grown in almost every province except the most northerly, though the finer kinds are confined to a few localities. Formerly, all the black tea was brought from the province of Fo-kien, and the green from that of Kiangnan ; but the culture of the first for exportation is now extended to Quang-tung, and of the other to Tche-kiang. From these places it has hitherto been conveyed, from 400 to 700 miles, mostly by land-carriage, to Canton for shipment ; but, under the late treaty with Great Britain, it will doubtless find its way to nearer ports.

The plant is propagated from seeds, which are deposited in rows. The first crop of leaves is not collected until the third year ; and when the trees are six or seven years old, the produce becomes so inferior that they are removed. There are commonly three gatherings of the leaves yearly,—in April, Midsummer, and August. The earliest possess the most delicate colour and aroma ; leaves of the second gathering have less valuable qualities ; and those last collected are of a dark colour, large, coarse, and so inferior that they are consumed only by the poorest of the natives. After being gathered, and partially dried by exposure to the sun, they are farther dried in a heated pan. They are then removed to a table where they are rolled and cooled ; after which they are sifted and sorted into several varieties. The object of the drying and rolling is both to diminish the bulk and to enable the leaves to preserve their flavour.

DESCRIPTIVE TABLE OF THE PRINCIPAL TEAS.

BLACK TEAS.

1. *Bohea* is a coarse leaf, distinguished by containing a larger proportion of the woody fibre than other teas ; its infusion is of a darker colour, and as it has been more subjected to the action of fire, it keeps longer without becoming musty than the finer sorts. Two kinds are brought from China : the lowest called Canton bohea, is a mixture of refuse congou with a coarse tea called woping. The better kind of bohea comes from the district of that name in Fo-kien, and having been of late esteemed equally with the lower congous, has been packed in the same square chests, while the old bohea package is of an oblong shape.

2. *Congou* (a derivation from *Koong-foo*, "labour or assiduity") long formed the bulk of the East India Company's cargoes ; but the quality gradually fell off ; and of late the consumption of bohea has increased in this country to the diminution of congou, the standard of which has been considerably lowered. A particular variety called *campoi* (from *Kien-poey*, "selection," or "choice"), has ceased to be prized from the absence of strength,—a characteristic generally esteemed beyond delicacy of flavour.

3. *Souchong* (from *Saou-choong*, "small or scarce sort") is the finest of the stronger black

teas, with a leaf that is generally entire and curly, but younger than in the coarser kinds. *Padre souchong*, packed in separate paper bundles of about $\frac{1}{4}$ lb. each, is so fine as to be used almost exclusively for presents. The finest kinds of souchong are sometimes scented with flowers ; and they cannot be obtained, even in China, except at high prices. An exceedingly crisped and curled leaf, called *sonchi*, has lately grown into disrepute, from being often mixed with a ferruginous dust.

4. *Pekoe*, being composed mainly of the young spring-buds, is both dear and small in quantity. With a view to preserve the fineness of flavour, the application of heat is very limited in drying, whence this kind is more liable to injury from keeping than any other sort.

GREEN TEAS.

1. *Twankay*, the bohea of green teas, has always formed three-fourths of the whole of those teas imported, being used by the retailers to mix with the finer kinds. The leaf is older, and not so much twisted or rolled as in the dearer kinds : there is altogether less care bestowed on its preparation.

2. *Hyson-skin* is an inferior kind of hyson ; all those leaves that are of a coarser, yellower, and less twisted or rolled appearance, are set apart

and sold as the refuse, or "skin tea," at a much lower price.

3. *Hyson* (corrupted from the Chinese term for "flourishing spring"), is a fine sort gathered in the early part of the season. Every leaf is twisted and rolled by hand; and, on account of the extreme care required in its preparation, the best is difficult to procure, and very expensive.

4. *Gunpowder* is nothing but a more carefully-picked hyson, consisting of the best rolled and roundest leaves, which gives it that granular appearance whence it derives its name.

5. *Young Hyson*, until spoiled by fraudulent mixture to meet the large demand of the Americans, was a genuine delicate young leaf, called

Tea must have been used in China from a remote period; but it was unknown in Europe until the beginning of the 17th century, when it was introduced by the Dutch. It was carried from Amsterdam to London. Afterwards small quantities were brought to England by the East India Company; but it did not become an object of trade with them until about 1678, when they imported 4713 lbs. In the beginning of the last century it came more into use; and in 1746, the quantity consumed increased to 2,358,589 lbs.; in 1768, to 6,892,075 lbs.; in 1785, to 10,856,578 lbs.; in 1800, to 20,358,702 lbs.; and in 1833, to 31,829,619 lbs. Hitherto the East India Company had enjoyed a monopoly of the British trade, and the price of tea was in consequence much higher than in other countries: but their exclusive privileges were abolished, April 22, 1834, when the trade was thrown open, subject to the regulations of the act 3 & 4 Wm. IV. c. 101. The competition of private traders afterwards reduced the price; and the quantity consumed in the United Kingdom increased in 1835 to 36,574,004 lbs.; and in 1836 to 49,142,236 lbs. The war with China and distressed condition of our manufacturing population, subsequently led to a great falling off in the consumption; but in 1841 it amounted to no less than 36,396,078 lbs. From 2,000,000 to 4,000,000 lbs. are besides annually imported for re-exportation, chiefly to British America and Germany.

Tea is also largely consumed in the United States; considerable quantities are likewise used in Holland and in Russia, which last country is supplied overland by way of Kiachta. In other parts, the consumption is quite inconsiderable.

The British duties on tea have varied greatly at different periods. From 1819 to 1834, an *ad valorem* excise duty was levied of 96 per cent. on all teas sold under 2s. per lb., and 110 per cent. on all that were sold at or above 2s. per lb. In 1834, tea was removed from the excise to the customs department of the revenue, when there were imposed—on bohea, 1s. 6d. per lb.; on congou, twankay, hyson-skin, orange pekoe, and campoi, 2s. 2d. per lb.; and on souchong, hyson, flowery pekoe, and other kinds not enumerated, 3s. per lb. These rates ceased July 1, 1836; since which a fixed duty of 2s. 1d. per lb. has been imposed on all teas.

TEAK, a large Indian tree (*Tectona grandis*), having a trunk erect, lofty, and of an enormous size. It has some resemblance to oak in its timber, but its quality is reckoned preferable for shipbuilding; and the country ships of India, as well as many of the vessels trading between India and this country, are constructed of it. It is easily worked, and at the same time strong and durable. Alternate exposure to a vertical sun and to the drenching rain of the wet monsoons, which would rend in pieces European oak, produce no injurious effect upon teak. Being of an oily nature, it also possesses the valuable property of preserving iron, while oak destroys it. The teak most esteemed is grown in the Ghauts. There are also extensive forests of it on the banks of the Irrawady in Birmah; and it is largely exported from Rangoon to Calcutta and other parts of India. Its quality, though inferior to that of Malabar for shipbuilding, has been found fitter for machinery.

AFRICAN TEAK is a name improperly given to a species of timber largely imported from Sierra Leone. Though for some purposes useful, it is destitute of several of the most valuable properties of teak, and is, in fact, the product of an entirely different tree.

TEXAS, a republic of N. America, between the United States and Mexico, extending from latitude 26° to 38° N., and from longitude 94° to 107° W. Area, 310,000 sq. miles. Population, 350,000. Texas is an integral not a federal republic.

Texas was formerly a province of Mexico; but having been peopled chiefly by Anglo-Americans, disputes arose, and afterwards an insurrection, which resulted, April 21, 1836, in its independence, by the defeat of Santa Anna, the Mexican president, at San Jacinto. It is both a fine and a fertile country, mostly level, and well suited for the growth of cotton, which is its agricultural staple. The grains chiefly cultivated are maize and wheat; but the rearing of live-stock forms the principal occupation, especially in the prairies. Slavery exists, and industrial progress is mainly dependent on its continuance, as the climate is too hot and relaxing for free labour. The position of the country, however, is favourable for trade; and in exchange for cotton and other products sent to Britain, partly by way of New Orleans, the Texans import manufactures, &c. There is also a considerable inland trade with the United States, at Santa Fe, to which

in China *Yu-tien*, "before the rains," because gathered in early spring.

In collecting green tea, the leaves only are taken, being nipped off above the foot-stalk, while of the black teas the foot-stalk is always collected. Thus black tea contains much of the woody fibre, while the green is exclusively the fleshy part of the leaf itself. Green tea is thus dearer than black; it besides does not keep so long, and is less able to contend with the chances of injury during a long sea-voyage. Black tea, likewise, abounds much more in strength. On these grounds it forms the great bulk of the importations into Britain. In the United States, however, the demand for green tea is more considerable than for black.

goods are brought by way of Pittsburg and St Louis. The Texan ports are, Galveston, Matagorda Bay, and Aransas. The currency and weights are similar to those of the United States; but some of the measures are Mexican. Texas was recognised by the United States, March 3, 1837; and treaties were concluded with France, September 25, 1839, and with Britain, November 16, 1840. For further information, see *Kennedy's Texas*.

THREAD (Fr. *Fil.* Ger. *Zwirn.* Du. *Garen.* It. *Refe.* Por. *Fio.* Sp. *Hilo, Torsal.* Rus. *Nitki*), a small line, formed by twisting together fibres of flax, cotton, or silk. The various kinds used in sewing, and in making bobbin net, and some other textile fabrics, consist of two or more *yarns*, firmly twisted together.

TILES (Fr. *Tuiles.* Ger. *Dachziegel*), a kind of thin brick, or plate of baked clay, used chiefly for covering roofs, but occasionally also for paving floors and making drains. Down to 1833, an excise duty was levied in Britain on tiles.

TIMBER, wood adapted for house or ship building. The trade in timber is one of great extent and importance. A considerable portion of that (OAK) used in ship-building is of home-growth, but the greater portion of that (PINE) employed in house-carpentry is imported,—the sources of supply being the countries around the Baltic, especially Prussia and Norway, and our colonies in N. America. The produce of the N. of Europe is generally of excellent quality; but much of the colonial timber is very inferior. Teak is brought from Africa, mahogany from Honduras and other places, and cabinet and dye woods from a variety of quarters; but these scarcely enter into competition with the timber of N. America and the Baltic. The duty on foreign timber was, in 1787, only 6s. 8d. the load of 50 cubic feet; but it was gradually raised until, in 1804, it amounted to 25s. In 1810, it was raised to 54s. 8d.; and from 1814 to 1820, it was 64s. 11d. and 65s. the load. Colonial timber was admitted free until 1798, when a duty was imposed of 3 per cent. *ad valorem*; but the trade in this kind scarcely existed prior to 1803, when the duty was changed to a specific rate of 2s. per load; which, however, was abolished in 1806. From this year colonial timber was admitted free until 1821, when a duty of 10s. the load was imposed, and at same time the duty on European timber reduced from 65s. to 55s. the load, leaving a preference duty in operation of 45s.; which system continued till 1842. These differential duties led to the substitution of the inferior timber of N. America for the superior produce of the N. of Europe. The average annual importation of N. American timber, only 16,533 loads in the five years from 1803 to 1807, gradually increased, until, on an average of the five years, 1829-1833, it amounted to 412,682 loads; while the importation of Baltic timber fell off in the same period from 232,477 loads to 122,783 loads. In 1841, the consumption of foreign and colonial timber in the United Kingdom, and the duty derived therefrom, were as follow:—Battens, deals, and staves, 177,058 great hundreds (120), £778,990; timber, 8 in. sq. and upwards, from British America, 613,679 loads, £337,795; do. from other parts, 131,479 loads, £370,302: making in all, of revenue, £1,487,087.

Proposals for a reduction of the timber duties were made by Earl Grey's government in 1831, and by Lord Melbourne's in 1841; but nothing was effected until 1842, when the duty on colonial timber was reduced to 1s. per load. At same time, foreign timber was lowered to 30s. the load; deals, 35s.; and after October 10, 1842, to 25s. and 30s. respectively. The mode of charging the duty was also improved. Formerly it was disproportionably heavy on the smallest and least valuable kinds of deals, battens, and planks; while, in measuring unsawn timber, the cubic contents were, it is alleged, over-estimated from 10 to 20 per cent.; and the sawers complained that timber partly cut up was charged proportionally lower than in the log, by which their interests were needlessly injured.

TIN (Fr. *Fer blanc.* Ger. *Weissblech*), a white brilliant metal. Its surface is but slowly impaired by exposure to the atmosphere, nor is it oxidized even by the combined agency of air and moisture. Its malleability is very considerable. In ductility and tenacity it is inferior to several metals. It is soft and inelastic. Sp. gr. 7.2. Fusing point, 442° Fahr. It is employed, when in a liquid state, in *tin-ning* or covering iron and copper plates, to protect them from rust; also in the fabrication of a great variety of utensils. Alloyed with lead it forms pewter. It is likewise used in the process of enamelling; in silvering looking-glasses; by dyers, when solved, to heighten red colours; and for many other purposes.

Tin is rather a scarce metal: it is principally found in primitive rocks, and occurs disseminated in them, and in beds, but principally in veins, mostly in a state of crystallization, being rarely compact, and is frequently accompanied by other minerals. The ore from which it is chiefly obtained is an oxide of the metal. Tin is found abundantly in Cornwall and the western part of Devonshire: it is also procured in Germany, Bohemia, and Hungary, in Europe; in Chili and Mexico, in America; and in Malacca and Banca, in Asia.

BRITISH TIN.—The annual produce of the tin mines and works of Cornwall is estimated at 4000 tons, worth from £65 to £80 a-ton. About 30,000 cwts. of unwrought tin are annually exported from Britain, chiefly to France, Italy, and Russia; which is exclusive of tin and pewter wares and tin plates, in declared value nearly £400,000, sent to the United States, Italy, Germany, France, the colonies, &c. From 10,000 to 30,000 cwts. of Banca and Malay tin are besides imported for re-exportation to the continent and the United States.

TINCAL. [BORAX.]

TOBACCO (Du. *Tabak*. Fr. *Tabac*. Ger. *Taback*. It. *Tabacco*. Por. & Sp. *Tabaco*. Rus. *Tabak*. Arab. *Bujjebang*. Mal. *Tambracoo*. Chin. *Sang-gen*), the dried stimulating narcotic leaves of a plant indigenous to America, but extensively cultivated in the Old World,—its use, either for smoking, chewing, or snuffing, being now common in all countries. There are several species,—the principal being the *Nicotiana Tabacum*, grown in Virginia, the great commercial source of the “weed.” It is an annual herb, raised from seeds sown in March in prepared protected beds, from which it is transplanted in May; and it attains perfection in September. It has then a stem from three to six feet in height, bearing large oblong spear-shaped leaves, which, after being gathered, and *cured* by fermentation and drying, are ranged horizontally and pressed in the hogsheads in which they are exported; the finest, however, being generally made into a kind of *rolls*. Tobacco requires considerable heat to come to perfection, but with care it may be reared in temperate climates; and it is thus cultivated to a great extent in Holland, France, Prussia, and other countries, in several of which the trade is, for fiscal purposes, monopolized by the government. For a more detailed account of the rearing of tobacco, see *Porter's Tropical Agriculture*.

Tobacco was introduced into Europe by the Spaniards and Portuguese, who acquired the habit of smoking from the natives of America; and it was brought to England by Raleigh and his co-adventurers, 1586. Its use afterwards increased rapidly. The planting of tobacco was even introduced into England; in which, notwithstanding several prohibitions, it was continued until the Restoration, when, for the purposes of revenue, the exclusive supply of the home market was secured to the American colonists; though its cultivation in Ireland was permitted until a recent period. Tobacco having been always the subject of an extensive smuggling, especially before 1825, the custom-house accounts of the trade cannot be implicitly relied on. In 1842, the quantity of unmanufactured tobacco imported into the United Kingdom amounted to 38,204,641 lbs.; of manufactured and snuff, 733,937 lbs.; total, 38,938,578 lbs.: of which about 19-20ths were brought from the United States, and the remainder chiefly from Cuba, Colombia, Hayti, and the East Indies. The total quantity entered for consumption in the same year was 22,378,062 lbs.; the surplus imported being re-exported chiefly to Germany, Holland, Belgium, Spain, Portugal, Italy, west coast of Africa, and Australia.

Dealers distinguish between *strip* and *leaf*, or *strip-leaf* and *hand-work*; the former being the technical name for that from which the stem of the leaf has been taken away, before the latter is packed, whereas hand-work is the leaf packed whole, stem and all. Upon the arrival of tobacco in Britain it is lodged in bonded warehouses, where every cask is opened, and the portion which from damage is considered to be not worth paying duty upon, removed and consumed. Afterwards, it is conveyed to the manufacturer, who communicates to it one of the three forms in which it is used—common tobacco, cigars, or snuff.

The Duty in Britain on foreign unmanufactured tobacco was in 1786 only 10d. per lb.; but in 1787 it was increased to 1s. 3d.; in 1796 to 1s. 7d.; and afterwards gradually to 4s. in 1815; which high rate was continued until 1825, when it was reduced to 3s.—the existing rate. As the price of tobacco in bond varies from 2½d. to 6d. per lb., the duty is from 600 to 1440 per cent.: the average rate is about 900 per cent. The Irish duties were assimilated to those of Britain in 1813. The net revenue levied in the United Kingdom on the article is about £3,500,000; only two foreign commodities—sugar and tea—bringing in a larger sum.

The duty was collected both through the customs and excise until 1825, since which it has been levied wholly by the customs. A strict survey of the manufacturers was, however, maintained by the excise until 1840, when it was abolished (3 & 4 Vict. c. 18); but the smuggling and adulteration alleged to be practised, led in 1842 to a partial re-establishment of the excise surveillance by the 5 & 6 Vict. c. 93.

Tobacco is prohibited to be imported in vessels of less than 120 tons, or exported in those under 70 tons; and the places of import are limited to London and Liverpool (to which two nearly the whole is brought), and a few other principal ports. A charge of 2s. per hhd. is made on its being placed in the bonded warehouse, and the same when it is taken out; but no other rent is due for five years. On being re-shipped it is subject to an allowance of shrinkage from the seller to the buyer of 30 lbs. per hhd. on Virginia and Kentucky, and 15 lbs. per hhd. on Maryland, on the landing weights; the draff of the former 8 lbs., and the latter 4 lbs., with a tret on all sorts of 4 lbs. per 104 lbs. When taken out for home consumption the same allowances of draff and tret are made as for exportation, and the duty is charged on the net weight. [CUSTOMS REGULATIONS.]

TOLU BALSAM, the concrete juice of the *Myrrorhon toluiferum*, is of a brownish-yellow colour, transparent, with the taste and odour of the white balsam of Peru. It is imported from South America in earthenware jars or tin cases; but it is much adulterated.

TON, a British measure of weight, equal 20 cwts. or 2240 lbs. avoirdupois; in the measurement of a ship, it is reckoned at 40 cubic feet.

TONNAGE of a Ship, is properly an expression for its interior capacity by the number of tons of sea-water which it could contain; therefore, if the interior

volume were found in cubic feet, on dividing that volume by 35 (the number of cubic feet of sea-water equal in weight to one ton), the quotient would be the tonnage required. In practice, however, it has been found convenient to adopt empirical rules for finding the tonnage of ships. Prior to 1836, the established method in this country was founded on very erroneous principles. By considering the breadth and depth nearly the same, the rule implied the square of the breadth; and hence increasing the breadth of a vessel increased her *nominal* tonnage for the payment of dues more than it increased her real capacity. Vessels, accordingly, came to be built narrow and deep; and thus not only less efficient but highly dangerous. But this pernicious practice was abolished, and an improved system introduced, by the act 5 & 6 Wm. IV. c. 56, of which the following is an abstract:—

Vessels not propelled by steam, previous to being registered, must be measured while the hold is clear, thus:—Divide the length of the upper-deck between the after part of the stem and the fore part of the stern-post into six equal parts.

Depths.—At the foremost, the middle, and the aftermost of those points of division, measure in feet and decimal parts of a foot the depths from the under side of the upper-deck to the ceiling at the linber strake. In the case of a break in the upper-deck, the depths are to be measured from a line stretched in a continuation of the deck. *Breadths*.—Divide each of those three depths into five equal parts, and measure the inside breadths at one-fifth and at four-fifths from the upper-deck of the foremost and aftermost depths, and at two-fifths and four-fifths from the upper-deck of the midship depth.

Length.—At half the midship depth measure the length of the vessel from the after-part of the stem to the fore-part of the stern-post; then to twice the midship depth add the foremost and the aftermost depths for the sum of the depths; add together the upper and lower breadths at the foremost division, three times the upper breadth, and the lower breadth at the midship division, and the upper and twice the lower breadth at the after division, for the sum of the breadths; then multiply the sum of the depths by the sum of the breadths, and this product by the length, and divide the final product by 3500, which will give the number of tons for register. If the vessel have a poop or half-deck, or a break in the upper-deck, measure the inside mean length, breadth, and height of such part thereof as may be included within the bulkhead,—mul-

tiple these three measurements together, and, dividing the product by 92.4, the quotient will be the number of tons to be added to the result as above found. In open vessels, the depths are to be measured from the upper edge of the upper strake.

In steam-vessels, the tonnage due to the cubical contents of the engine-room must be deducted; the contents being ascertained thus:—Measure the inside length of the engine-room in feet and decimal parts of a foot from the foremost to the aftermost bulkhead, then multiply the said length by the depth of the vessel at the midship division, and the product by the inside breadth at the same division, at two-fifths of the depth from the deck, taken as aforesaid, and divide the last product by 92.4, and the quotient will be the tonnage of the engine-room.

The length of the engine-room and the tonnage due to its cubical contents must be set forth in the registry; and any alteration on them will require a new registry.

Vessels whose tonnage is required when their cargoes are on board, must be measured thus:—Measure first the length on the upper-deck, between the after-part of the stem and the fore-part of the stern-post; secondly, the inside breadth on the under side of the upper-deck, at the middle point of the length; and, thirdly, the depth from the under side of the upper-deck down the pump-well to the skin; multiply these three dimensions together, and divide the product by 130: the quotient will be the amount of the registered tonnage.

The amount so ascertained must be carved on the main beam of each vessel.

TONTINE, a loan raised on life annuities, with the benefit of survivorship. Thus, an annuity at a certain rate of interest is granted to a number of subscribers, who are divided into classes according to their ages; and annually the whole fund of each class is shared among its survivors, till at last it falls to one, and on his death it reverts to the party who established the tontine. The term is derived from the name of the inventor, Lorenzo Tonti, a Neapolitan.

TOPAZ, an ornamental stone, in considerable estimation. It occurs massive, in rounded pieces, and crystallized in prisms. Sp. gr. 3.5. It is sometimes limpid and nearly transparent, or of various shades of yellow, green, blue, or red, and translucent. It becomes electric by heat, with polarity. Topaz occurs chiefly in Minas Novas in Brazil, and the Ural Mountains; but it is also found in the German tin mines, the Mourne Mountains in Ireland, and Cairngorm in Aberdeenshire.

TORTOISE-SHELL (Malay, *Sisik kurakura*), the scales of the tortoise; used for combs, snuffboxes, spectacles, as well as for inlaying and various other works. There are several kinds both of land and marine tortoises, but the shell of commerce is usually obtained from a marine species found within the tropics, called the *carretta* or hawksbill tortoise, the *Testudo imbricata* of Linnaeus. Tortoise-shell abounds in the seas of the Indian Archipelago; and it is imported extensively from Singapore. An inferior kind is brought from the West Indies.

TOYS (Du. *Speelgoed*. Fr. *Jouets*, *Bimbelots*. Ger. *Spielzeug*, *Speilsachen*. It. *Trastulli*), children's playthings, baubles, and trifling ornaments of all sorts. These articles form, in this country, the subject of an immense commerce. Birmingham, denominated by Burke "the toyshop of Europe," is the chief seat of the manufacture of metallic ornaments, trinkets, and bijouterie; and an almost infinite variety of toys are made in London and other cities throughout the king-

dom ; besides which, considerable quantities are imported from Holland, Germany, France, India, and China.

TRADE. [COMMERCE.]

TRADE-WINDS, a name given to certain remarkable aerial currents, on account of their signal importance in commerce.

In those parts of the Atlantic and Pacific Oceans which are remote from the influence of the land, between the limits of about 28° or 30° N. and S. latitude, there is a constant easterly wind. On the north side of the equator it blows from between the north and the east, and on the south side from between the south and the east, inclining more to the north and south according to the distance from the equator : these winds are denominated the N.E. and S.E. *trade-winds* ; and are produced by a modification of the currents of cold air flowing from the poles to the equator, caused by the rotation of the earth on its axis. The direction and extent of the trade-winds vary with the season of the year ; and in some parts of the world their course is entirely altered. The most remarkable of these modifications of the trade-winds are the Indian *Monsoons*.

TRAGACANTH, OR **GUM-DRAGON**, a gum produced by a species of *Astragalus* growing in Persia and Turkey. It is more costly, and extremely different in many of its properties from gum-arabic. The finest kind occurs in twisted, vermicular, rounded or elongated pieces, almost transparent, whitish, brittle, inodorous, with a slightly bitter taste. It is also found in large tears, of a vermicular form, a reddish colour, and mixed with impurities. It is used in topical dyeing, and in pharmacy for making powders into troches.

TREACLE, the viscid brown syrup which drains from sugar when refining.

TRET, a deduction of 4 lbs. for every 104 lbs. from the weight of goods for dust, &c.

TRIPOLI, the most easterly of the Barbary States, consists chiefly of a line of coast, extending about 800 miles along the Mediterranean, from Cape Razam to Port Bomba. Population, 660,000. It is nominally a dependency of the Porte.

For a few miles inland, the country is of exuberant fertility, but beyond this the interior consists either of sandy deserts, or of the barren mountainous districts of Gavian and Menabta. The coast tract produces in luxuriance many articles peculiar to the finest tropical climates, and corn is raised in abundance. The date forms the staple of the interior and sandy districts.

Tripoli, the capital and chief port, is situated on a neck of land projecting a short distance into the sea, in lat. $32^{\circ} 53'$ N. long. $13^{\circ} 11'$ E. Pop. 25,000. Exports, wool, drugs, madder roots, barilla, hides, goat and sheep skins dressed, salt, trona, ostrich feathers, gold-dust, ivory, gum, dried fruits and dates, lotus-beans, cassol-venere, saffron, bullocks, sheep, and poultry. Imports, manufactured goods, colonials, timber, and naval stores. The principal intercourse is with the Levant, Malta, and Tunis.

TRIPOLI, an earthy substance used in polishing hard bodies.

TROY, a term applied to the English weight for the precious metals. [MEASURES.]

TRUCK SYSTEM, a name given to the practice of paying workmen in goods instead of money. Though attended with some advantages, it was found to be susceptible of very great abuses. It was accordingly prohibited under penalties by 1 & 2 Wm. IV. c. 32.

TRUFFLE, a delicate subterranean fungus (*Tuber cibarium*), esteemed as an article of diet. It is imported from France and Italy.

TUNIS, one of the Barbary States, lies betwixt Algiers on the W. and Tripoli on the E. Area, 72,000 sq. miles. Population, 2,000,000. The monarch, or *bey*, possesses absolute power, and is now independent of the Porte.

This state is composed chiefly of a large peninsula, stretching into the Mediterranean to within less than 100 miles of Sicily. The climate is fine, and the soil fertile, except when the usual rains are withheld. All the coast is capable of bearing cotton, sugar, and spices. Indigo and silk might also be procured with a little care. The mountains near the capital contain silver, copper, and lead, and near Porto Farina there is one of quicksilver ; but the mines are not worked.

Tunis, the capital and chief port, is an irregularly built and dirty town, in lat. $36^{\circ} 48'$ N., long. $10^{\circ} 16'$ E. Pop. 120,000. The staple exports are olive-oil, wool, red caps, grain, hides, gold-dust, ivory, sponges, tunny fish, wax, and soap, the whole amounting annually to about £370,000. The imports are woollens, cottons, linens, with coffee, spices, sugar, metals, silk, wine, &c. The government monopolizes the trade in many articles ; as tobacco, wax, wool, and provisions, which it farms out to individuals. The chief intercourse is with Marseilles. With Britain there is little trade, except through the medium of Gibraltar and Malta.

TUNNY, a large fish (*Thynnus vulgaris*) belonging to the mackerel tribe,—the object of important fisheries in the Mediterranean.

TURBOT, a flat fish (*Rhombus maximus*), weighing generally from 5 to 10 lbs., taken on nearly all the coasts of Britain, but principally off Scarborough. It is in season from May to Michaelmas.

TURKEY, OR THE **OTTOMAN EMPIRE**, embraces—1st, *European Turkey*, which, including the dependencies of Wallachia, Moldavia, and Servia, comprises, excepting Greece, almost the whole of the great easterly peninsula of S. Europe, extending from lat. 39° to $48\frac{1}{2}^{\circ}$ N., and from long. $15\frac{1}{2}^{\circ}$ to 29° E. Area, 210,000 sq. miles ; population, 14,000,000. 2d, *Asiatic Turkey*, comprising Asia Minor, the adjacent islands, the greater part of Armenia and Kurdistan, with Syria and

Palestine, Mesopotamia, and a portion of Arabia. Area, 437,000 sq. miles; pop. 10,000,000. The empire likewise includes Egypt and other African districts; but these are now merely nominal dependencies. Government, despotic, but tempered by the laws of the Koran.

European Turkey may be considered a mountainous country, though it has some very extensive plains,—the principal being that comprising Wallachia, Moldavia, and Bulgaria; considerable portions of Thrace, Macedonia, and Thessaly are also level. The country generally is well watered by the Danube, Save, and other rivers. Asia Minor consists chiefly of an extensive table-land, traversed from W. to E. by mountain-ranges, which extend into Armenia and Kurdistan. Towards the S. the surface spreads out into extensive plains, naturally fertile, but at present desert and uninhabited, except the coast district of Syria, which contains the lofty chain of Lebanon.

The climate of European Turkey is colder and more changeable than that of the parts of Italy and Spain under the same latitudes; and that of Asiatic Turkey is almost equally variable. The relative temperature of the different divisions is best indicated by their vegetable products. In Croatia, Bosnia, and the adjoining provinces of European Turkey, the mountains are covered with oak and elm; S. of the Balkan, the country, besides forests of aycamore, carob, and plane trees, contains vineyards and orchards, but is destitute of the olive, which does not thrive N. of lat. 40°. The productions of Albania resemble those of the opposite coast of Italy; and in Thessaly—the garden of European Turkey—oil, wine, cotton, tobacco, figs, pomegranates, oranges, and lemons grow to perfection. The vegetation is similar in the more sheltered parts of Asia Minor. In Armenia and Kurdistan, the olive and orange ripen only in the warmer valleys. S. of Taurus we enter an entirely new region, where the date, banana, sugar-cane, and indigo, betoken a close approach to the products of tropical climates.

Every branch of industry is in a backward state in Turkey. In most parts power makes law; and there is no real security of property. The cultivators are congregated in villages, and agriculture is in a very rude condition. Still, so great is the fertility, that there is a surplus of corn for exportation. The grains chiefly cultivated are maize, wheat, rye, barley, oats, and buckwheat. Wine is grown in most of the European provinces; oil chiefly in the Asiatic; flax, hemp, saffron, cotton, tobacco, castor-oil, and madder are also reared; likewise silk, especially round Brusa, in Asia Minor. Sheep and goats furnish the principal animal food of the people.

Manufactures appear formerly to have attained greater excellence than was to be expected; but of late years they have been depressed by foreign competition, and the domestic weaving of cotton stuffs for family use is now almost the only branch of consequence. Copper, lead, iron, and other metals exist in various parts; but mining industry is little pursued.

Commerce is impeded by the want of roads; and almost all merchandise is conveyed throughout the country on the backs of camels and horses. In European Turkey, after Constantinople, Adrianople, Salonica, and Bucharest in Wallachia, are the principal trading cities; and, next to Smyrna, Trebisonde and Aleppo are the chief in Asia, being the seats of an extensive caravan trade with Persia, Busora, Bagdad, and other places. The principal exports from Turkey are sheeps' wool, raw silk, goats' hair, cattle, horses, hides, skins, corn, cotton, tobacco, fruit, mastic and other gums, gall-nuts, valonia, honey, wax, saffron, madder, anise, linseed, turpentine, safflower, whetstones, carpets, leather; with Arabian, Persian, and Indian goods. The chief imports are cottons and cotton yarn, linens, woollens, and silks, tropical products and dye-stuffs, hardware, earthenware, paper, and furs.

The trade between England and Turkey was long monopolized by a chartered company, incorporated 1581. In 1753, the chief abuses of the Turkey Company were removed; and in 1825 it finally surrendered its privileges. The declared value of British produce and manufactures exported from the United Kingdom to Turkey, on an average of the five years to 1841, was £1,292,531; about three-fourths of which consisted of cotton manufactures and yarn; the remainder chiefly of refined sugar, iron and steel, woollens, machinery, coal, plate and jewellery, hardware, earthenware, tinwares, haberdashery and linens: nearly one-half of these goods are forwarded to Persia, mostly by way of Constantinople and Trebisonde. These are exclusive of British products shipped to Syria and Palestine, amounting to nearly £250,000 yearly, principally cottons. Besides these, coffee, spices, and other foreign and colonial articles are shipped from England to Turkey. The principal exports from Turkey to Britain are raisins, figs, valonia, raw silk, opium, madder, sheep's wool, skins, cotton wool, and sometimes wheat.

Trade is mostly in the hands of English, French, Italians, Greeks, Armenians, and Jews. The policy of the Porte in respect to importations has always been liberal, and the provision monopolies and restrictions which formerly existed, have it is believed been abolished. Her commercial system is in fact the best feature in the government of Turkey.

Ports.—*Constantinople*, the capital, in lat. 41° 0' N., long. 28° 59' E., is advantageously situated at the junction of the Bosphorus with the Sea of Marmora. The interior presents a strange combination of magnificence and meanness. Pop. 600,000. The town occupies a triangular peninsula, forming, with the suburbs of Galata and Pera, the magnificent port of the Golden Horn. This port is safe and capacious; but the approach to it in summer is retarded by the unremitted blowing of the N. wind from the Black Sea down the Bosphorus, Sea of Marmora, and the Dardanelles. The trade of Constantinople is very considerable, it being an entrepôt for a great portion of European and Asiatic Turkey, as well as Persia.

The chief other ports are—in European Turkey, Galatz in Moldavia on the Danube, and Salonica in Macedonia; in Asiatic Turkey, Smyrna on the W. coast of Asia Minor, Trebisonde on the Black Sea, and Beyrout in Syria.

MEASURES, WEIGHTS, MONEY, &c.

Measures and Weights.—The pik or ell is of two kinds; the greater pik, called *kalebi* or *archim*, used in the measurement of silks and woollens, = 27·90 Imp. inches; the lesser pik, termed *endasse*, used in the measurement of cottons and carpets, = 27·06 Imp. inches; but in trade the pik is reckoned at 27 Imp. inches = $\frac{3}{4}$ Imp. yard. The *berri*, or Turkish mile, = 1826 Imp. yards. The almude, liquid measure, = 1 $\frac{1}{2}$ Imp. gallon nearly, and 100 almudes = 115·10 Imp. gallons; the almude of oil weighs 8 oke.

The fortin, corn measure, of 4 killows, = 3·84 Imp. bushels; and 100 killows = 12 Imp. quarters nearly.

The oke of 4 cheques, or 400 drams, = 19800 troy grains = 2 lbs. 13 oz. 4½ drams avoirdupois; the cantar or quintal of 44 okes, or 100 rottoli, = 124·46 lbs. avoirdupois.

Gold, silver, and precious stones, are weighed by the cheque, = 4950 troy grains: the cheque is divided into 100 drams, each of 16 karas, or 64 grains; the dram = 49½ troy grains; and 1½ dram = 1 metical = 74½ troy grains = 2½ drams avoirdupois nearly. The fineness of gold is expressed by dividing the unit of reference into 24 carats, each of 4 grains: the fineness of silver by dividing it into 100 carats, each of 4 grains.

The preceding are the Constantinople weights; but in Smyrna, 100 killows = 17½ Imp. quarters; 2 killows of Smyrna = 3 killows of Constantinople nearly. The cantar or quintal is 7½ batmans, 45 okes, 100 rottoli, or 18000 drams, = 187·29 lbs. avoird. In other respects as above.

The batman of Persian silk is 6 okes; the quintal of cotton yarn, 45 okes; the taffee of Brussa silk, 610 drams; the cheque of goat-wool, 800 drams; the cheque of opium, 250 drams.

Money.—Accounts are stated in piastres (*grusck*) of 40 paras, each para consisting of 2½ good or 3 current aspers. The rate of exchange

is very variable, on account of the continued debasement of the coin. In 1810, £1 was worth only 12 piastres; but in 1839 it was equivalent to 104, and in 1842 to nearly 120 piastres.

The common or silver purse (*keser*) is 500 piastres; the gold purse (*kisc*) is 30,000 piastres; the *jaks* is 2 common purses, or 1000 piastres.

No regular system of coinage exists at present in Turkey. And bills and prices are generally reckoned by European merchants according to the rates borne by foreign coins, particularly Spanish and German dollars.

Bills on London are commonly drawn at 61 days' sight; on other places, 31 days' sight. No uniform custom prevails as to days of grace.

A Treaty between Britain and Turkey in 1838 engages the Porte "to abolish all monopolies of agricultural produce, or of any other articles whatsoever, as well as all permits from the local governors, either for the purchase of any article, or its removal from one place to another when purchased." It allows British merchants to purchase, export, or re-sell all kinds of merchandise; and other powers are entitled to establish their trade on the same basis. The duties it fixes are 3 per cent. *ad valorem* on all goods imported or exported, and they are to be subject to a septennial revision.

TURMERIC, the dried roots or bulbs of a tropical plant (*Curcuma longa*), are about the size of a pigeon's egg—oblong, tough, externally grayish, internally of a deep yellow colour, with an aromatic smell and a bitterish acrid taste. Our supplies are brought from Bengal, Java, and China: of these the Chinese is the best. Turmeric, after being imported, is reduced to a powder, which is used in dyeing and in medicine; also as a seasoning, being an ingredient in curry.

TURNSOLE, a blue dye, obtained from a lichen found in the Canaries.

TURPENTINE (Fr. *Térébenthine*. Ger. *Turpentin*. It. *Trementina*), a name for several resinous juices of trees, chiefly of the pine tribe. These juices agree in most of their properties, being originally fluid and transparent, of a strong and rather pleasant odour, and a pungent taste; inflammable and soluble in oils, alcohol, and ether, but not in water. When distilled, they yield an essential oil, called oil or spirit of turpentine, and a solid matter, called resin, is left in the still. The principal varieties are—1. Common turpentine, derived from the *Pinus sylvestris*, and largely imported from the United States. 2. Venice turpentine, from the *P. larix*, or larch tree. 3. Chio turpentine, from the *Pistacia terebinthus*, and imported from Chio, Cyprus, and the Greek Archipelago. Turpentine is largely employed in the arts, especially in painting and varnishing; also in medicine and surgery.

TURTLE, a name given to the marine tortoise, some species of which, especially the green turtle, found on the coasts of almost all the islands and continents of the torrid zone, are highly prized as food. They abound particularly in the Cayman Isles, in the West Indies, from whence they are imported.

TUSCANY, an Italian grand-duchy, lying on the N.W., between the Apennines and the Mediterranean, separating the Papal States and Lucca. Area, including Elba, &c., 8381 sq. miles. Population in 1836, 1,436,780. Capital, Florence, an inland city, pop. 97,548. Government, an absolute monarchy.

A considerable portion of the territory is occupied with branches of the Apennines; while from Leghorn to the S. frontier, the maritime district, called the *Maremma*, once full of flourishing cities, is now a pestilential desert. The finest part is the broad and fertile vale of the Arno, extending from Florence to Pisa. About one-third of Tuscany is planted with vines and olives, or cultivated as arable land, and nearly two-thirds consist of forests or plantations of chestnuts, and pasture-ground. The corn raised is insufficient for the consumption. The chief productions for export are oil, silk, fruit, lamb and kid skins, potash, timber, cork, marble and alabaster, iron from Elba, borax, alum, and anchovies fished on the coast; a little wine; with straw-plat, woollen caps, coral articles, and some other manufactures. Trade is mostly concentrated at

Leghorn or Livorno, the chief commercial emporium of Italy, situated in lat. 43° 38' N., long. 10° 17' E., 14 miles from Pisa, and 45 from Florence, to which a railway is in progress. Pop. 75,000, including numerous English. The town is neat; and the harbour is tolerably spacious, but not sufficiently deep for large vessels, which lie in the roads, where there is good anchorage. There are three lazarettos, and extensive warehouses in porto franco. The chief imports are corn from the Black Sea, French woollens, English cottons, hardware, salt-fish, and colonial articles, especially sugar from Havana and Brazil, coffee, and spices. The exports, besides the native products already noticed, include the re-shipment of Black Sea wheat, and many of the other imports.

The transit-trade of Leghorn, particularly with the Levant and Black Sea, is less considerable than formerly; but the very low charges of the port, and the facilities afforded by its warehouses and lazarettos, within which last ships may be unladen without being detained to perform quarantine, enable it still to preserve a very important share of this trade. In 1838, 3582 vessels entered the port, including 195 British, in burden 29,307 tons. The yearly exports are estimated at from £1,500,000 to £2,000,000.

MEASURES, WEIGHTS, MONEY, &c.

Measures and Weights.—The braccio of 20 soldi = 22·979 Imp. inches, and 100 braccia = 63·83 Imp. yards; the passetto is 2 braccia, and the canna 5. The Tuscan mile = 2833 braccia.

The sacato, land-measure, of 10 stagoli, = 5928 Imp. square yards; the quadrato = 4074 Imp. square yards.

The baril, wine measure, of 20 flasci, = 10·03 Imp. galls.; the oil baril of 16 flasci, = 7·36 Imp. galls.; the soma is 2 barili, and the cogna 10.

The stajo, corn-measure, of 2 mine, = 2·676 Imp. pecks; and 100 staja = 66½ Imp. bushels; the sacca of 3 staja = 2 Imp. bushels; and the moggio of 24 staja = 2 Imp. quarters nearly.

The Tuscan pound of 12 ounces, 96 drams,

288 denari, or 6912 grani, = 5240 troy grains; and the quintal of 100 lbs. = 74·86 lbs. avoird.

Money.—Accounts are stated in lire, divided into 100 centimes, or into 20 soldi each of 12 denari. The lira, valued in silver, is equivalent to 7·86d. or 7½d. sterling nearly; and £T.30, 53 centimes = £1 sterling.

In 1836 a joint-stock bank was established at Leghorn, which issues notes varying in amount from £T.200 to £T.2000.

Principal coins: the ruspone, worth about £1.8s. 5½d. sterling; the zecchin, 9s. 5½d.; the francoscone, 4s. 4½d., or 10 pauls; the paul, 5½d.

Bills from Britain are usually drawn at 3 months' date.

TYPE, a piece of metal, generally an alloy of lead with regulus of antimony, on one end of which, called the *face*, is cast the figure of a letter or other character used in printing. There are a great variety of sizes. The quantity of each usually required is called a *fount*, and is purchased by the pound weight. A fount comprehends a certain proportion of capital, small capital, Roman and Italic letters, with points, numerals, &c. Letter-founding was invented in Germany in the 15th century. In the reign of Anne most of our type was imported from Holland; but after 1720, the improvements of William Caslon of London rendered the English types superior to any in Europe. The art is still extensively pursued in the metropolis; also in Edinburgh, where it has attained the greatest perfection.

U.

ULLAGE, in Gauging, what a cask wants of being full.

UMBRELLA (Fr. *Parapluie*), a well-known article, employed as a covering against rain; a smaller kind—the *parasol*—being also used by ladies as a protection from the sun. Both are of Asiatic origin, where they are used entirely for the latter purpose; and were introduced into this country by way of Italy in the early part of last century. In Europe, such coverings are used by almost all classes; but in the East their use is confined to the highest, whose rank also they sometimes denote. They are extensively made in Birmingham, London, and other cities in this country. The finer kinds are covered with silk; and the commoner with a peculiar kind of cotton cloth, largely manufactured in Perth and Carlisle.

UNITED KINGDOM OF GREAT BRITAIN AND IRELAND, the nucleus of the wealth and power of the British empire, consists of two large islands, situated in the N. Atlantic Ocean, off the W. shores of Continental Europe, between lat. 50° and 59° N., and long. 2° E. and 11° W., and numerous smaller islands adjoining thereto. Area, 121,853 sq. miles. Population in 1841,—England and Wales, 15,911,725; Scotland, 2,620,610; Ireland, 8,179,359; total, 26,711,694. Capital, London, in lat. 51° 30' N., long. 0° 5' W. Pop. 1,870,727. Government, a constitutional monarchy; with a parliament consisting of a House of Lords made up (excluding minors) of 417 hereditary peers and 30 bishops, and a House of Commons of 658 representatives, chosen by about 996,000 electors qualified by holding a certain amount of property.

All the departments of British industry and production having received prominent attention in the different articles of the present work, we deem it unnecessary in this place to do more than give a summary of the most recent commercial and financial tables issued by the government.

IMPORTS and EXPORTS of the UNITED KINGDOM.

Years Ending Jan. 5.	Official Value of Imports.	Official Value of Exports.			Declared Value of British Produce and Manufactures.
		British Produce and Manufactures.	Foreign and Colo- nial Merchandise.	Total Exports.	
1841*	£67,432,964	£102,705,372	£13,774,306	£116,479,678	£51,406,430
1842	64,377,982	102,180,517	14,723,151	116,903,668	51,634,623
1843	65,204,729	100,260,101	13,584,158	113,844,259	47,381,023

* For preceding years see the article **COMMERCE**.

Quantities of the Principal Articles of Foreign and Colonial Merchandise entered for Home Consumption.			Declared Value of Principal Articles of British and Irish Produce and Manufactures Exported		
	Years to January 5,			Years to January 5,	
	1841.	1842.		1841.	1842.
Bark cwt.	640,714	505,893	Apparel £	612,844	587,848
Butter cwt.	249,272	251,265	Arms, ammunition..	332,101	343,776
Cheese cwt.	220,678	248,735	Beef, pork, &c. . . .	280,719	128,481
Coffee lbs.	28,723,735	28,420,110	Beer, ale	422,222	25,420
Corn Wheat qrs.	2,024,848	2,300,888	Books	147,351	141,886
Other kinds qrs.	1,442,378	649,484	Brass and copper . . .	1,450,484	1,525,744
Flour cwt.	1,317,815	1,214,220	Butter, cheese	206,334	225,483
Cotton wool			Cabinet wares	78,124	76,348
United States lbs.	433,016,214	353,353,283	Coals, culm	576,520	475,280
East Indies lbs.	51,931,134	50,077,420	Cordage	163,321	150,413
Brazil lbs.	11,959,644	14,005,987	Cotton manufactures .	17,367,310	16,232,210
Other places lbs.	12,297,650	13,187,411	Cotton yarn	7,101,328	7,086,200
Dyes, Indigo lbs.	3,011,900	2,800,175	Earthenware	573,184	67,780
Lac lbs.	649,943	765,884	Fish	962,429	197,800
Flax & Hemp cwt.	1,920,583	1,506,884	Glass	417,177	421,236
Bides cwt.	304,502	456,222	Haberdashery	575,843	603,127
Molasses cwt.	423,126	402,422	Hardware	1,349,177	1,623,962
Oil, olive gals.	1,989,466	1,339,646	Hats	143,483	125,402
Train oilperm. tons	24,303	23,717	Horses	85,446	129,680
Pepper lbs.	2,742,617	2,750,798	Iron, steel	2,524,240	2,477,570
Quicksilver lbs.	331,649	303,479	Lead and shot	237,312	242,334
Rice cwt.	218,007	243,887	Leather, saddlery . . .	417,074	428,773
Rice in husk bush.	353,844	374,135	Linen manufactures . .	3,306,000	3,247,243
Saltpetre cwt.	325,492	328,175	Linen yarn	822,076	971,286
Seeds Clover cwt.	141,304	61,240	Machinery	503,054	531,382
Flax & flint bush.	3,222,964	2,764,250	Oil, linseed, &c. . . .	103,937	114,019
Silk, Raw, &c. . . . lbs.	4,895,475	5,040,870	Painters' colours . . .	206,356	183,200
Spirits - Rum gals.	2,510,668	2,278,081	Plate, jewellery	204,427	214,126
Brandy gals.	1,100,773	1,165,177	Salt	213,479	175,613
Sugar cwt.	3,604,450	4,453,724	Silk manufactures . . .	792,648	788,204
Tallow cwt.	1,118,307	1,243,112	Soap, candles	450,640	342,680
Ten lbs.	32,262,305	30,326,078	Stationery	282,403	274,244
Timber: foreign . . .			Sugar, refined	440,263	548,226
Colonial loads	177,624	131,408	Tin wares, &c.	409,603	477,126
Battens, deals, . . .	652,030	614,057	Wool	350,021	364,220
staves hund.	190,266	177,032	Woolen manufactures .	5,327,853	5,748,673
Tobacco lbs.	23,096,201	22,308,395	Woolen yarn	452,967	552,148
Wine gals.	6,84,537	6,460,118	Other articles	1,728,378	1,752,134
Wool, Sheep & . . . lbs.	40,000,502	41,020,197			
			Total £	51,406,430	51,624,623

**DECLARED VALUE of the PRODUCE and MANUFACTURES of the UNITED KINGDOM
Exported to different Countries in each of the Years 1840 and 1841**

Countries.	1840.	1841.	Countries.	1840.	1841.
Russia £	1,002,742	1,607,175	Mauritius £	325,812	340,140
Sweden	110,425	197,813	E. I. Co.'s Territories and Ceylon.	6,023,192	5,505,000
Norway	70,016	117,808	China	524,198	862,570
Denmark	201,463	101,481	Sumatra, Java	349,521	205,574
Prussia	219,345	363,821	Philippines	325,463	84,419
Germany	5,400,459	5,654,033	Australia, Van Dic- men's Land.	2,004,383	1,280,251
Holland	3,416,190	3,610,077	New Zealand, &c. . . .	47,240	67,273
Belgium	200,286	1,095,040	British America . . .	2,847,913	2,947,061
France	2,378,149	2,902,002	West Indies	3,574,970	2,504,004
Portugal Proper . . .	1,110,244	1,038,212	Hayti	251,979	109,142
Azores	44,743	38,280	Other Foreign W. I. Islands	863,520	893,441
Madeira	35,157	24,008	United States	5,263,020	7,028,643
Spain	404,262	413,849	Texas		6,707
Canaries	45,672	42,730	Mexico	465,330	434,391
Gibraltar	1,111,176	1,053,367	Guatemala	2,373	21,365
Italy & Italian Islands	2,060,338	2,578,007	Colombia	239,743	158,572
Malta	191,545	223,734	Brazil	2,625,853	2,556,384
Ionian Islands	10,204	119,523	La Plata States	614,047	980,362
Turkey and Contin- ental Greece	1,138,559	1,220,261	Chili	1,244,170	430,089
Morea and Greek Islands	25,827	34,604	Peru	780,201	536,006
Syria	223,033	427,063	Channel Isles & Man	357,214	330,407
Egypt	79,063	238,403	Other Places	16,546	14,491
Harbary	63,004	44,126			
W. Coast of Africa . .	492,128	410,708			
Cape of Good Hope .	417,091	394,574			
			Total £	51,406,430	51,624,623

Public Revenue in 1839, 1840, and 1841, and EXPENDITURE in 1841.

REVENUE.	Years ended January 5,			EXPENDITURE In the Year ended January 5, 1842.	
	1842.	1841.	1840.		
CUSTOMS REVENUE.	£	£	£	COLLECTION OF REVENUE.	£ 2,169,056
Spirits { Foreign 1,344,821	1,344,821	1,260,581	1,371,487	Preventive Service	561,000
{ Rum 1,273,630	1,273,630	1,153,013	1,063,087	Total.	2,730,056
{ British 5,442,478	5,442,478	5,201,594	5,178,175		
Malt 4,345,943	4,345,943	4,283,012	5,263,307	PUBLIC DEBT.	
Hops 200,079	341,440	49,155	49,155	Interest of Permanent Debt...	24,333,359
Wine... 1,849,711	1,791,646	1,721,281		Terminable Annuities...	4,076,776
Sugar, molasses 4,427,019	4,650,017	5,307,675		Management...	135,000
Tea... 3,650,000	3,479,064	3,073,668		Interest on Exchequer Bills...	800,460
Coffee 779,115	921,552	887,723		Total	29,442,969
Tobacco, snuff 3,495,607	3,588,192	3,750,825			
Butter, cheese 318,395	375,250	397,236		CIVIL GOVERNMENT.	
Currents, railways 323,882	330,000	410,027		Royal Household...	371,000
Corn 1,008,778	1,156,940	568,314		Branches of Royal Family...	318,000
Cotton and wool 559,679	785,401	664,576		Lord-Lieut. of Ireland's Estab...	32,463
Silk... 262,304	240,620	257,735		Houses of Parliament...	122,717
Paper... 629,817	583,012	500,219		Civil Departments...	496,551
Soap... 764,180	806,201	813,054		Miscellaneous Annuities...	310,200
Candies, tallow 102,000	180,281	205,830		Pensions' Civil List...	4,029
Glass 718,340	738,555	682,192		Total	1,606,854
Bricks, tiles, slates 463,426	523,300	443,018			
Timber 1,803,164	1,730,551	1,500,412		JUSTICE.	
Auctions 208,404	315,246	311,784		Courts of Justice...	533,781
Excise Licences 1,028,685	1,054,115	1,036,505		Police & Criminal Prosecutions...	571,806
Post Horses 228,251	210,670	180,804		Correction...	407,000
Sundries 1,617,005	1,674,305	1,661,521		Total	1,602,630
Total	37,911,506	38,127,408	38,118,222		
STAMPS.				DIPLOMATIC.	
Deeds, &c 1,699,383	1,710,533	1,665,297		Ministers' Salaries and Pensions...	185,770
Probates, Legacies 2,017,686	2,098,078	2,132,473		Consuls' Salaries and Pensions...	120,000
Marine Insurance 202,978	209,358	284,495		Disbursements, Outfit, &c...	30,071
Fire Insurance 923,005	944,321	904,140		Total	351,351
Bills, Notes 781,620	773,114	743,312			
Newspapers 238,304	244,416	245,800		FORCES.	
Advertisements 125,026	131,600	131,600		Army { Effective (93,630*)...	3,971,425
Stage-coaches 497,216	438,047	460,711		{ Non-effective (85,260)...	2,446,906
Receipts 173,047	175,070	174,747		Navy { Effective (40,273)...	5,103,300
Sundries 489,001	473,256	473,585		{ Non-effective (32,447)...	1,385,716
Total	7,217,363	7,267,023	7,276,394	Ordnance { Effective (3531)...	1,655,303
				{ Non-effective...	159,730
TAXES.				Total	14,721,037
Land Taxes 1,174,100	1,181,283	1,214,431		Chinese Expedition...	400,000
Windows 1,298,623	1,404,642	1,664,053		Insurrection in Canada...	117,153
Servants 201,482	216,693	218,844		Public Works...	356,494
Horses 384,285	416,170	464,092		Public Warehouses, &c...	121,320
Carriages 447,467	481,450	414,076		Colonial Charities...	230,122
Dogs 150,832	170,931	172,100		Remun. for Services, Losses, &c...	102,749
Add 10 per cent.				Special and Temporary Objects...	119,531
Miscellaneous 960,800	990,919	958,210		Charitable Institutions...	150,700
Totals	1,938,689	4,152,207	4,715,153	Education, Science, and Art...	276,716
Post-Office 2,300,764	1,343,604	1,495,540		Permanent Charges...	463,007
Crown Lands 357,815	482,422	430,200		Abolition of Slavery...	122,426
Other Receipts 248,310	900,960	271,600		Post-office...	931,378
In all	52,058,349	51,863,510	52,315,430	Payments from Crown Lands...	213,316
				Other Charges...	242,814
				In all	54,465,318

Customs Duty Collected at the Principal Ports in 1841.

England.	£	England.	£	Scotland.	£	Ireland.	£
London...	11,757,902	Chester...	77,803	Leith...	604,098	Dublin...	977,718
Liverpool...	4,140,503	Southampton...	72,962	Glasgow...	526,100	Belfast...	579,789
Bristol...	1,046,800	Yarmouth...	60,796	Greenock...	423,535	Cork...	263,364
Hull...	712,124	Sunderland...	67,205	Port Glasgow...	100,897	Waterford...	168,380
Newcastle...	410,076	Lynn...	84,380	Aberdeen...	78,126	Limerick...	170,559
Gloucester...	123,688	Portsmouth...	62,227	Dundee...	48,130	Londonderry...	108,007
Plymouth...	126,727	Goole...	61,621	Montrose...	31,713	Newry...	42,010
Whitehaven...	85,290	Truro...	44,129	Grangemouth...	20,692	Sligo...	35,627
Stockton...	85,724	Rochester...	40,713	Perth...	12,381	Galway...	27,760

* Exclusive of Queen's troops paid by the East India Company.

UNITED STATES OF N. AMERICA, a confederacy of democratic republics which claims the portion of that continent extending from the Atlantic on the E. to the Pacific on the W., and from British America on the N. to Mexico, Texas, and the Gulf of Mexico on the S.; but the settled part is nearly confined to the region lying between lat. 29° and 47° N., and long. 67° and 95° W., which is divided into 26 states, 3 "territories" (or half-formed states), and a federal district. It has an area of about 2,000,000 square miles, and a population (1840) of 17,063,353, including 2,487,355 negro slaves in the S. states; but excluding about 200,000 Indian aborigines. Capital, Washington, pop. 23,364. The federal government comprehends a president, the executive head, appointed for four years by electoral colleges, and a congress composed of two legislative chambers,—a senate made up of two members chosen by each of the state legislatures for six years, and a house of 242 representatives, elected for two years by the people.

The Physical Geography of this immense country presents various distinct features. Two principal chains of mountains intersect it from N. to S.; on the W. the Rocky Mountains, a prolongation of the Mexican Cordillera, 8000 feet in mean height, which run nearly parallel to the Pacific coast at the distance of several hundred miles; and on the E. the Alleghany Mountains, about 2500 feet in mean height, which run nearly parallel to the Atlantic coast, at a distance varying from 70 to 300 miles. These two chains divide the entire territory into three regions,—the Western or Pacific region, watered by the Columbia river; the Eastern or Atlantic region, watered by the Hudson, Delaware, and other streams; and the Middle region, comprising the great and fertile valley of the Mississippi, and watered by that river and its mighty tributaries the Ohio and the Missouri.

The Atlantic region, the first settled, is the most populous and improved portion, but not the most favoured as to soil and climate. From the Alleghanies to the Mississippi the country is much more fertile, particularly the basin of the Ohio—a rich and beautiful tract, the garden of the United States. These two districts, embracing the whole country E. of the Mississippi, were originally almost a continuous forest, the greater part of which still remains. Beyond that river is the prairie tract, occupying the central part of N. America, W. to nearly the Rocky chain; where commences a barren sandy district, several hundred miles in length by 300 in breadth. The Pacific slope is said to be densely wooded, but it is only partially explored.

The Climate on the N. resembles that of Canada,—extremely cold in winter, and warm in summer, with a rapid transition from the one season to the other; and along the whole Atlantic coast it may be generally described as much colder than in the same parallels in Europe, the difference being equivalent to about 10 degrees of latitude. This difference lessens as we proceed westwards; and on the shores of the Pacific the climate resembles that of the W. of Europe on the same parallel. In the southern states the summers are hot and unhealthy, especially in July, August, and September; but the remainder of the year is commonly mild and pleasant.

The Productions of the Soil differ according to climate and situation. Timber, though still common in the Atlantic states, has been mostly cleared from localities whence it can be readily carried away. Agriculture is as yet but imperfect, the state of the country still rendering it more profitable to cultivate a large surface rudely, than a small one laboriously. The principal objects of cultivation, ranged in their order of importance, are in the different divisions as follow:—In the northern or New England states (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut), Indian corn, grass, rye, oats, flax, wheat, buckwheat, barley, and hemp; in the middle and western states, wheat, Indian corn, tobacco, grass, oats, buckwheat, flax, barley, potatoes, spelts, rye; and in the southern states, cotton, wheat, tobacco, Indian corn, rice, barley, and hemp.

The crop of the chief articles in 1840, and the states ranking highest in production, were as follow:—Indian corn, 377,531,875 bushels (Tennessee, Kentucky, Virginia); wheat, 84,823,727 bushels (Ohio, Pennsylvania, New York, Virginia); oats, 123,071,341 bushels (New York, Pennsylvania, Ohio, Virginia); rye, 18,645,567 bushels (Pennsylvania); barley, 4,161,504 bushels (New York); potatoes, 108,298,060 bushels (New York, Maine); hemp and flax, 95,252 tons (Virginia); rice, 80,841,422 lbs. (S. Carolina); tobacco, 219,163,319 lbs. (Virginia, Kentucky); cotton, 790,479,275 lbs. (Mississippi, Georgia, Louisiana, Alabama); sugar, 115,110,809 lbs. (Louisiana); and silk cocoons, 61,522 lbs. (Connecticut).

The live-stock in 1840 consisted of 4,335,669 horses and mules; 14,971,586 neat cattle (New York, Ohio); 26,301,293 swine (Tennessee, Kentucky, Ohio); and 19,311,374 sheep (New York, Ohio, Vermont), yielding 35,802,114 lbs. wool.

Mining is prosecuted to some extent. Coal is worked in Pennsylvania, Virginia, and Ohio, where there is an immense formation extending into Indiana and Illinois. Iron is generally diffused; and mines are worked in Pennsylvania and other states. Lead is raised in Wisconsin, Illinois, and Missouri; and of late years gold has been collected in N. Carolina, Georgia, and in Virginia. Other minerals exist; but only a trifling quantity is raised. Salt is produced chiefly in New York and Virginia.

In 1840, 27,603,191 bushels of bituminous coal, and 863,489 tons (each of 28 bush.) anthracite, were produced; 206,903 tons cast, and 197,233 tons bar iron; 31,239,453 lbs. lead; \$529,605 value of gold; and 6,179,174 bushels domestic salt.

Manufactures were established after the separation from the mother-country; and having been since fostered by tariff protection, they have risen to some importance in the northern states, especially Massachusetts. Cotton and woollen goods are largely made at Lowell in that state; the coarser kinds of hardware and machinery at Pittsburg in Pennsylvania and other places; and a variety of other goods,—as leather articles, linen, linen-yarn, cordage, glass, paper, soap, and candles, at different places. Distillation and brewing are conducted on a great scale, especially in New York, Pennsylvania, and Ohio; and a little wine is made in N. Carolina and other states.

In 1840 the value of woollens made was \$20,696,999; of cottons, \$46,350,453; of flaxen goods, \$322,205; of silks, \$119,814; of mixed manufactures, \$6,545,503; of hats, caps, bonnets, &c., \$10,180,847; of leather articles, \$33,134,403; of glass, \$2,890,293; of paper, \$5,641,455; of cordage, \$4,078,306; and the quantity of spirits distilled, 41,402,627 gallons!

The Internal Trade, which is of great activity and extent, is facilitated by the magnificent nav-

gates of the Hudson, Ohio, Mississippi, and other rivers, and of the great lakes which separate the States from Canada; and also by the numerous canals and railways by which these and the Atlantic ports and populous districts are connected. These public works, partly formed by joint-stock companies, and partly state undertakings, want the finish and durability of those of Britain, but some are of great extent,—as the Erie Canal, 363 miles in length, joining Lake Ontario and the Hudson, and the railway connecting the Ohio with the Delaware. In 1838, the canals in operation afforded 3086 miles of artificial inland navigation; and the total mileage of railways chartered in 1841 was 8378, of which 3430 were open, and traversed by 475 locomotives. The roads, however, excepting those in New England, and a national one 700 miles in length, from Baltimore to St. Louis on the Mississippi, are very indifferent, in many parts being mere forest tracks.

The *External Commerce* and navigation of the United States exceeds that of any other nation of the world,—Great Britain alone excepted. Her staple export is cotton wool, the shipment of which in 1841 was estimated in the public accounts at \$34,330,341, being in value more than one-half of the whole domestic exports of the Union. The chief other articles of that year were tobacco, \$12,576,703; flour, \$7,750,646; rice, \$2,010,107; other grain, \$5,967,709; pork, bacon, beef, &c., \$6,300,180; lumber, naval stores, and ashes, \$6,264,859; produce of fisheries, \$2,646,851; cotton manufactures, \$3,129,546; other manufactures, \$5,903,617; the whole making, with unenumerated articles, and \$2,746,486 of coin, \$106,382,722. The cotton is sent chiefly to Britain, France, and Germany; tobacco principally to Britain and Holland, the flour and provisions partly to Europe, but chiefly to Brazil and the West Indies, which are also the great marts for lumber.

The imports are made up of cottons, woollens, linens, hardware, earthenware, and other manufactures from Britain, silks and wines from France and Spain, tea from China; sugar and coffee from Cuba and Brazil, linens, woollens, and hosiery from Germany, salt from England and Portugal; with spices, dye-stuffs, and numerous other articles from all parts. In 1841 the whole amounted to \$127,946,177, whereof \$14,724,340 were in foreign, and \$113,221,837 in American shipping.

The mercantile marine of the Union amounted in 1840 to 2,100,764 tons, owned chiefly in the northern states.

Progress of the Exports and Imports for a Series of Years.

	1833.	1836.	1837.	1838.	1839.	1840.	1841.
Exports.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
Domestic	101,389,092	106,916,694	95,564,414	96,031,821	103,531,891	113,805,634	106,581,722
Foreign	20,504,493	21,746,398	21,034,952	12,452,795	17,404,525	18,196,312	15,469,061
	121,893,577	128,663,092	116,599,366	108,484,616	120,936,416	132,001,946	122,050,783
Imports.	142,803,742	189,000,035	140,202,217	113,717,404	102,002,432	107,141,519	127,946,177

The following TABLE shows the POPULATION of the several STATES and TERRITORIES according to the Census of 1840, and their Imports and Exports in 1841.

	Pop.	Imports.	Exports.		Pop.	Imports.	Exports.
Atlantic States.		Dollars.	Dollars.	Western States.		Dollars.	Dollars.
Maine	501,793	700,061	1,091,566	Ohio	1,519,467	11,318	793,116
New Hampshire	284,574	73,711	10,749	Michigan	212,867	137,000	80,589
Vermont	291,941	246,739	277,907	Indiana	695,066	..	..
Massachusetts	737,629	30,316,003	11,467,743	Ill.ois	476,163	..	..
Rhode Island	108,834	339,512	278,465	Missouri	303,702	33,875	..
Connecticut	309,978	295,009	529,348	Kentucky	779,828	..	..
New York	2,428,921	25,713,426	33,139,874	Tennessee	829,210	7,523	..
Pennsylvania	1,724,033	10,340,698	5,152,501	Arkansas	97,574	..	..
New Jersey	373,306	8,715	19,166	Alabama	500,756	530,019	10,981,271
Delaware	78,085	3,274	38,585	Mississippi	375,651	..	..
Maryland	470,019	6,101,313	4,847,106	Louisiana	369,411	10,256,350	34,367,483
Columbia F. D.	43,712	77,267	761,331	Territories.			
Virginia	1,239,707	377,277	5,620,296	Florida	54,477	145,161	35,622
N. Carolina	753,419	220,360	93,050	Wisconsin	70,945	..	..
S. Carolina	504,306	1,557,471	8,043,284	Iowa	43,112	..	..
Georgia	691,102	449,007	1,696,513				
					17,053,353	127,946,177	121,851,803

VALUE of IMPORTS from and EXPORTS to Foreign Countries in 1841.

	Imports.	Exports.		Imports.	Exports.
	Dollars.	Dollars.		Dollars.	Dollars.
U. Kingdom	40,009,813	46,155,735	Italy, Sicily &c.	1,739,293	1,905,881
Gibraltar	21,079	1,020,931	Rest of Europe	1,929,065	2,285,558
British India	1,230,641	552,334	Mexico	3,204,057	886,513
Brit. W. Indies	1,106,604	3,714,879	Venezuela	2,012,004	532,419
Brit. America	1,908,107	6,292,841	Havaii	1,809,804	1,003,634
Other colonies	105,392	142,977	Sp. W. Indies	14,127,047	5,826,856
			Other W. Indies	1,804,917	1,952,170
France	51,090,620	57,850,146	Brazil	6,302,653	2,941,991
Russia	23,983,812	18,410,367	Argen. Republic	1,612,513	800,007
Holland	2,817,448	146,118	Chili, Peru	1,755,356	846,410
Belgium	374,833	1,673,795	China	3,945,300	715,322
Hann Towns	2,449,964	4,110,635	Other countries	3,787,902	2,761,504
Spain	1,310,808	386,001			
			Total.	127,946,177	106,382,722

The fisheries of the United States are of great importance. The cod-fishery is prosecuted with activity by the New Englanders, who are likewise extensively engaged in the northern and southern whale-fisheries. In 1840, a capital of \$16,429,620, and 36,584 men, were employed in the fisheries; the whole producing 773,947 quintals of smoked and dried fish, 472,359 barrels pickled fish, 4,764,768 gallons spermaceti, and 7,536,778 gallons whale and other fish oil, besides \$1,153,234 in value of whalebone and other articles.

The commerce and navigation of the United States rose into importance during the wars consequent on the French revolution, when they acquired a great proportion of the general and carrying trade of Europe; and in the interval from 1791 to 1817, their exports increased from \$19,000,000 to \$108,000,000, and their imports from \$52,000,000 to \$138,500,000. But this prosperity was checked by the lawless violence which reigned after the Berlin and Milan decrees of Napoleon on the one hand, and the British orders in council on the other, concerning the respective rights of the neutral and the belligerent. And even after the return of peace, the high duties imposed with the view of protecting the manufactures of the northern states, rendered the progress of trade by no means commensurate with the general advance of the Union in wealth and population. The declared value of the British and Irish produce and manufactures annually exported to the United States was, on an average of the three years 1805-6-7, £11,749,137; of the five years 1816-20, £6,948,609; of the ten years 1821-30, £6,009,770; and of the ten years 1831-40, £7,834,381, having in the speculative years 1835 and 1836 been £10,568,455 and £12,425,606, respectively. The trade with other countries maintained nearly the same proportions.

The protective policy of the United States was begun in 1789. It was extended in 1816, particularly as to woollens and cottons, new manufactures of which had sprung up in the northern states during the short war with Britain. And it was still farther extended by the celebrated tariff of 1828. This measure, however, having roused the indignation of the southern states, especially South Carolina, and nearly led to a disruption of the Union, was modified in 1832; and Mr Clay's Tariff Bill, passed March 2, 1833, further provided for the gradual reduction of all duties exceeding 20 per cent. to that rate by June 30, 1842. The good effects anticipated from Mr Clay's bill have been frustrated by a new tariff passed in August 1842, which re-imposes extravagant rates on manufactured goods; but the rising discontent of the southern states renders it probable that this tariff will be only of short duration.

The objections of the southern states to the tariff of 1842 (as to that of 1828) arises, as is well known, from their being wholly agricultural, and the *buyers*, not the *producers*, of manufactured goods. In this way they not unnaturally exclaim against a law, the tendency of which is both to force them to purchase the comparatively dear goods of the northern states, and at the same time to deprive them of the most profitable market in which to make their sales of cotton, tobacco, rice, and other raw products: for there can be no doubt, that to the same degree in which the tariff prevents them from buying foreign manufactures, it goes to exclude their agricultural produce from foreign countries.

THE PRINCIPAL PORTS, stated in their order from N. to S. along the Atlantic, are the following:—

Boston, in Massachusetts, 210 miles N. E. of New York, lies on a peninsula in a bay in lat. 42° 21' N., long. 71° 5' W. Pop. 93,383. The harbour is deep, capacious, and safe, with extensive wharfs; and its entrance is fortified. The trade consists chiefly in exporting manufactured goods, beef, pork, fish, and whale-oil, in exchange for flour, rice and other grain, cotton, tobacco, stores, coals, &c., from the more southern states; but it has also an extensive foreign trade.

New York, the commercial capital of the United States, lies in lat. 40° 43' N., long. 74° 10' W., on Manhattan Island, at the mouth of the Hudson, opposite Long Island and Staten Island, through the channel between which, called the Narrows, the port is usually approached from the Atlantic. Pop. 312,710. The inner bay forms a magnificent harbour, 8 miles in length by 4 or 5 in breadth; and the largest ships may lie close to the quays. By means of the Hudson and the extensive system of canals and railways with which New York is connected, it is the port not only for the surrounding country, but in a great measure also for Upper Canada, Ohio, Michigan, and Indiana; while, by means of the Erie canal and lake, and the Ohio and Wabash canals, goods may be conveyed to the emporiums on the Mississippi, even to New Orleans, and conversely. It has also an extensive transit trade with the S. states. Its imports and exports thus embrace every article that enters into the trade of the Union. The value of the merchandise annually loaded and unloaded is estimated at nearly \$200,000,000; and the coasting arrivals exceed 5000. In 1839, 2118 vessels (546,856 tons) arrived from foreign ports; and the imports amounted to \$99,296,495, and the exports to \$34,928,872. The great excess of imports arises from the produce of the Western States being mostly sent down the Mississippi to New Orleans, while their foreign supplies are chiefly derived through New York.

Philadelphia lies 80 miles S. W. of New York, in Pennsylvania, between the Delaware and Schuylkill, 6 miles above their confluence, in lat. 39° 57' N., long. 75° 11' W. Pop. 228,691. The quays on the Delaware are accessible to the largest merchantmen. This port is chiefly distinguished for its coasting trade; largely exporting flour, provisions, and manufactures to New York, Baltimore, &c.; though its foreign commerce is also pretty extensive, the imports annually amounting to from \$12,000,000 to \$15,000,000.

In New York and Philadelphia, the *spring* and the *fall*, when the country buyers arrive or give their orders, are distinguished as the trade seasons. The spring trade begins about the middle or end of January, and terminates about the first of May: in Philadelphia, however, it commences for the western trade about one month earlier. The fall trade begins both in New York and in Philadelphia on the 1st August, and closes towards the commencement of November. Goods intended for either season should arrive at least one week before it commences.

Baltimore, in Maryland, 100 miles S. W. Philadelphia, on Potapscow Bay, 14 miles above its entrance into the Chesapeake, in lat. 39° 17' N., long. 76° 38' W. Pop. 102,313. It is favourably situated; and is one of the greatest emporiums in the world for flour and tobacco. The chief other exports are hemp, flax, corn, timber, and iron. Imports, manufactures, &c.

Charleston, in S. Carolina, in lat. 32° 46' N., long. 79° 57' W., at the confluence of the Cooper and Ashley rivers, 6 miles from the ocean. Pop. 29,261. Exports chiefly cotton and rice; with naval stores, hams, bacon, &c. Imports, corn, flour, fish, and coarse manufactures from the N. and middle states, with a variety of foreign goods, mostly at second-hand from New York.

Savannah, in Georgia, in lat. 32° 2' N., long. 81° 3' W., on the Savannah river, 12 miles from

its mouth. Pop. 11,214. It lies 80 miles S. W. Charleston, and its trade is very similar. The total annual exports approach \$15,000,000.

Mobile, in Alabama, 115 miles E. New Orleans, in lat. 30° 40' N., long. 83° 11' W., at the mouth of the Mobile river, in the Gulf of Mexico. Exports, chiefly cotton. Imports, trifling.

New Orleans, in Louisiana, the great and flourishing emporium of the western and southern states, lies in lat. 29° 58' N., long. 90° 9' W., on the Mississippi, 105 miles from its mouth, in the Gulf of Mexico. Pop. 102,191. It is built on a swampy unhealthy plain. The river is very deep at the town, and is navigable for the largest vessels several hundred miles inland; but there is a bar at its main entrance at Balize, with only from 12 to 14 feet water at tide. Exports, cotton, flour, corn, meal, bacon, pork, tobacco, shingles, stores, lead, sugar, &c., the whole amounting in 1839 to \$30,995,936, exceeding in value the American produce shipped at New York; but the imports are comparatively small, amounting in 1839 to only \$12,864,942.

MEASURES, MONEY, BANKS, &c.

Measures and Weights same as in Britain, except the measures of capacity, which continue to be those used in England prior to the introduction of the imperial system. Commodities formerly sold by the hundredweight, however, are now, with few exceptions, sold by the 100 lbs., termed in some of the states a *quinta*.

The barrel of flour contains 5 Winchester bushels of wheat, and weighs 196 lbs. net. The barrel of Indian corn contains 3½th Winchester bushels, each bushel weighing about 57 lbs. The hogshead of Indian meal contains 800 lbs.; the barrel of pickled beef or pork, 200 lbs.

Money.—The integer of account is the dollar (\$), which is divided into 100 cents.

Gold coins; the eagle (of 10 dollars) weighing 258 troy grains, 9-10ths fine, or 232½ grains pure, and 25½ grains alloy; also the half-eagle and quarter-eagle, in the same proportion.

Silver coins; the dollar (of 100 cents), weighing 412½ troy grains, 9-10ths fine, or 371½ grains pure, and 41½ grains alloy; also the half-dollar, quarter-dollar, dime or ⅒ dollar, and half-dime, in the same proportion.

Copper coins; the cent weighing 208 troy grains, and the half-cent.

The expenses of the mint being defrayed by the government, coin is exchanged for bullion, deducting ¼ per cent. for the advance for the time required for coining. The remedy of the mint is 1 part in 144.

The value of the eagle, of full weight, is 41s. 1-16d., equal £2, 1s. 1½d. sterling nearly; and of the dollar, 50-17d., equal 4s. 2½d. sterling nearly. But the value of the dollar of account, which since 1834 [EAGLE] has been estimated in gold at ⅓th of the eagle, or rather ⅔th of the half-eagle (few eagles being coined), is only 49-32d., equal nearly 4s. 1½d. sterling.

The par of exchange with Britain, deduced from the gold coins, is thus 49½ pence per dollar, equal \$4-86½ cents per £1 sterling. But in practice the rate is commonly expressed (as more particularly explained under EXCHANGE), by a per centage upon an assumed par of 4s. 6d. per dollar: the true par, stated in this form, is 9½ per cent. premium; or £109, 10s., valuing the dollar at 4s. 6d., = £100 in British sterling money. When the premium is above 9½ per cent. therefore, the exchange is in favour of Britain; when below 9½ per cent., against it.

Bills on Europe are commonly drawn at 60 days' sight. The days of grace are 3. The foreign exchange is regulated chiefly by the state of the bill market of New York.

The following foreign gold coins are allowed currency by *weight*: those of Britain, 915½-1000ths in fineness, at 94½ cents per dwt.; and those of France, 899-1000ths in fineness, at 92½ cents per dwt. And the following foreign silver coins are allowed currency by *tale*: Spanish pillar

dollars, and the dollars of Mexico, Peru, and Bolivia, 897-1000ths in fineness, and 415 grains in weight, at 100 cents each; and French 5 franc pieces, 900-1000ths in fineness, and 384 grains in weight, at 93 cents each. (*Act of Congress*, March 3, 1843).

Banks of issue have been established in all parts of the Union. They are partly state concerns, and partly joint-stock associations chartered with partners liable only for the amount of their shares, or for some fixed multiple thereof. Many being without any solid foundation, and most, if not all of them, conducting their operations loosely, they became involved in the speculative undertakings which prevailed in 1835 and 1836, and in May 1837 the whole suspended specie payments. In 1838 cash payments were resumed by such as continued solvent; but the greater number again suspended in October 1839, when the great bank of the United States, in Pennsylvania, originally with a capital of \$35,000,000, gave way; since which, though the New York banks have continued to fulfil their engagements, the banking system generally has fallen into utter lawlessness and confusion.

On January 1, 1839, the number of banks was 508, and of branches, 131; their aggregate capital, \$259,642,610; and circulation, \$100,670,640.

Finances.—The revenue of the federal government is derived almost wholly from the produce of the sales of public lands and the customs duties; the former fluctuating usually from about \$2,000,000 to \$6,000,000; the latter from \$15,000,000 to \$20,000,000.

The public debt amounted in 1794 to \$76,096,468; in 1812 it was reduced to \$45,154,189; but in 1816, after the conclusion of the war, it had increased to \$123,016,325. In 1834 it was entirely redeemed, and in the following years a surplus accrued, which on January 1, 1837, amounted to \$43,000,000, which, after reserving \$5,000,000, was to be distributed among the states by quarterly instalments; but the last instalment was indefinitely deferred, owing to the commercial and banking embarrassments which occurred afterwards.

Most of the individual states, and some of the cities, have contracted debt, principally for canals, railways, public buildings or institutions; and the amount of these debts at the close of 1840, was about \$250,000,000, a great part of which is due in Britain. A large portion of this money has been injudiciously expended; but this does not afford the shadow of a pretext for the "repudiation" of their debts by Michigan, Mississippi, Louisiana, and other states,—a course so disgraceful, that besides bringing a flood of dishonour upon those states, it has to a certain extent affected the value of all American securities in the markets of Europe.

URUGUAY, a small South American republic, lying between Brazil and the river Plata. Area, 80,000 sq. miles; population 70,000, chiefly Spanish Americans, Indians, and mixed races.

A considerable portion of the country consists of table-land, yielding nothing but pasture for large herds of wild cattle. Towards the west the table-land is intersected by numerous valleys,

which, as well as those adjoining the Plata, contain many fertile tracts, where the grains and fruits of Southern Europe are cultivated with success. The eastern coast district is low and poor, being mostly covered with sand and intersected by lakes. It is not known whether the precious metals are found, but at San Carlos a rich copper mine is worked.

Montevideo, the metropolis, and only port of consideration, is a strongly fortified town, situated on a peninsula on the northern shore of the river Plata, 120 miles E. of Buenos Ayres, in lat. $34^{\circ} 54' S.$, long. $56^{\circ} 13' E.$ Pop. 12,000. The harbour is the best on the Plata; but is exposed to the violent west winds called *pamperos*. It is of a circular shape, 4 miles in diameter, with a narrow entrance, and is deep enough for large ships. The trade resembles that of Buenos Ayres. In 1836, the value of merchandise exported was £631,392, and imported £659,530.

Measures and Weights same as Spain. **Money**.—Accounts are kept in dollars, worth, according to a recent quotation, about 44d. or 3s. 8d. sterling.

USANCE, the customary or usual time for which bills are drawn.

USQUEBAUGH, an Irish compound of spirits, raisins, cinnamon, cloves, &c.

USURY, is the taking, on previous agreement, in England and Scotland of more than £5, in Ireland more than £6, for the forbearance of £100 during a year, and so in proportion. Of late years the usury laws have been relaxed in favour of bills not having more than 12 months to run, and simple loans above £10, not on real security, as explained under **INTEREST**.

V.

VALONIA, the acorn of a species of oak (*Quercus agrilops*) produced in the Morea and Asia Minor. It is used in tanning; the astringent principle is mostly confined to the acorn-cup. Valonia is of a bright drab colour, becoming black, however, when exposed to damp, which injures it. About 160,000 cwts. are annually imported into the United Kingdom.

VAN DIEMEN'S LAND, an insular appendage to the S.E. part of the Australian continent, subject to Britain. Area, 27,000 sq. miles. Population in 1838, 45,758, including 18,133 convicts.

The island is intersected from north to south by a chain of mountains about 3500 feet in height; and the remainder is composed of alternate hill and dale, a great part clear, well watered by rivers, and mostly fit for cultivation or pasturage. The climate is cooler than that of New South Wales, and the country has not the same extremes of barrenness and fertility. Wheat, barley, oats, and potatoes are produced of superior quality; and the sheep supply fine wool, though it is said scarcely equal to that of the continent. Blackwood and pine are the chief timber trees.

Van Diemen's Land was discovered by Tasman in 1642. In 1803, a convict establishment was founded by the British. After 1813, it was frequented by voluntary emigrants; and between 1824 and 1838, the grants of land were not less than 1,128,000 acres. In 1839 the sales amounted to 42,386 acres, at the average of 10s. 1½d., and in 1840 to 88,296 acres, at 11s. 4d., exclusive of town lots and military grants. In 1838, 108,000 acres were under crop, yielding 970,000 bushels corn, including 550,000 of wheat; and the live-stock consisted of 1,214,000 sheep, 75,000 cattle, 9650 horses, and 2400 goats. In the same year there belonged to the colony 101 vessels, burden 8382 tons; of these, nineteen, burden 2000 tons, were employed in the whale-fishing.

The principal exports are, wool (in 1841, 3,597,531 lbs.) whale-oil, bark, &c., amounting in 1840 to £867,000; and the imports, comprising all sorts of British manufactures, colonial products, spirits, wines, farming implements, &c., amounted in the same year to £988,356, including £737,250 from Britain; the shipping inwards and outwards amounting each to about 80,000 tons.

Hobart-Town, the capital, on the S. side, possesses a splendid harbour on the Derwent river, 20 miles from its mouth, in lat. $42^{\circ} 54' S.$, long. $147^{\circ} 21' E.$; pop. in 1838, 14,382. **Launceston**, 40 miles up the Tamar river, is the principal settlement on the N. side.

Measures and Weights same as Britain. **Currency**, British coins and local bank-notes and cheques. **Public revenue** in 1838, £138,591; expenditure, £133,681.

VANILLA, the succulent fruit or pod of a parasitical plant (*Vanilla aromatica*) found in Mexico. It is of a yellow or darkish-brown colour, corrugated, about eight inches long, containing in its cavity, besides numerous minute shining black seeds, a substance which is black, oily, and balsamic. It is an aromatic, employed in confectionary, the preparation of liqueurs, and in flavouring chocolate.

VEDRO, the principal Russian measure for liquids, = 2·71 Imp. gallons.

VELLUM, a fine white smooth kind of parchment made of calf-skin.

VELTE, a French measure for brandy, reckoned in Cognac at 1·61 Imp. gallon; in Bourdeaux at 1·58 do.; and in Nantes at 1·24 Imp. gallon.

VELVET (Fr. *Velours*. Ger. *Sammet*. It. *Velluto*), a beautiful silk fabric, of a compound texture; having, in addition to the warp and shoot of plain silk, a soft shag or *pile* on the outside, occasioned by the insertion of short pieces of silk thread doubled under the shoot; the other side being a strong close tissue. Its richness depends upon the relative number of the pile threads; and manufacturers accordingly designate different qualities as velvet of two, four, or six threads, according to the number. Velvet is now also made of cotton; a strong kind of which, called *Velveteen*, is used for men's apparel.

VENEZUELA, one of the three republics of COLOMBIA, occupies the N.E. corner

of S. America, between New Granada and British Guiana, having Brazil on the S. Area, 404,000 sq. miles. Pop. 905,000, including 250,000 whites of Spanish origin. Capital, Caraccas; pop. 25,000. Constitution, a federal republic.

Venezuela has been only partially explored. The N. part is mountainous, containing on the N.W. a branch of the Andes, but the remainder is generally level, particularly the course of the Orinoco, a magnificent river which intersects the country from W. to E., sometimes overflowing considerable districts. The S. part mainly consists of *llanos*, boundless plains similar to the pampas of La Plata, affording pasturage to innumerable herds of cattle. Culture and colonization are mostly confined to the coast territory, especially the vales of Aragua; where are reared coffee, cacao, tobacco, indigo, and cotton, which, with jerked beef, hides, mules, drugs, and dye-woods, form the leading exports. The imports chiefly consist of cottons and linens, with woollens, silks, flour, pork, and wine; and the principal commercial relations are with the United States, Britain, Denmark, Germany, Spain, France, and Holland. In 1839, the exports amounted to £895,198, and the imports to £717,091.

La Guayra, the port of Caraccas, and chief trading city, lies on the Caribbean Sea, in lat. 10° 36' N. long. 66° 56' W. Pop. 4000. The port is a mere roadstead; and the town is gloomy, hot, and unhealthy. In 1839, 26,337 tons of foreign shipping arrived, with cargoes valued at £570,318; and the exports amounted to £388,795. *Maracaybo*, on the strait connecting the great lake of that name with the sea, and *Angostura*, 240 miles up the Orinoco, are the chief other ports.

Measures and Weights same as Spain. *Money*, Colombian dollars of 8 reals: usual exchange, \$6 = £1. *Revenue* in 1840, \$2,245,259; expenditure, \$1,933,750.

VERDIGRIS (Fr. *Vert-de-gris*. Ger. *Grünspan*), the subacetate of copper. When pure, it occurs in blueish acicular crystals; but commonly it is in large masses, from having been packed when moist in leather bags. Its purity may be tested by diluted sulphuric acid, in which it entirely dissolves, leaving the impurities, if any, behind. It is employed as a pigment, in hatmaking, dyeing black, &c.

VERDITER, a blue pigment, is a carbonate of copper, generally made by decomposing solution of sulphate of copper, with the addition of chalk.

VERJUICE, the expressed juice of unripe grapes, or of crab-apples.

VERMICELLI, a thready paste of flour and water, similar to **MACCARONI**.

VERMILION, a beautiful scarlet powder, the red sulphuret of **MERCURY**.

VINEGAR (Fr. *Vinaigre*. Ger. *Essig*. It. *Aceto*. Por. and Sp. *Vinagre*), is an impure **ACETIC ACID**, of which four varieties are known in commerce, namely, wine, malt, sugar, and wood vinegar. The best is that prepared in France from wine. In this country, beer or malt vinegar was the kind chiefly used before the present improved method of producing it from pyroligneous acid. This acid, sometimes called crude vinegar, is obtained by the destructive distillation of wood, and is now manufactured on a large scale. It is at first contaminated with tar, but after being refined and diluted with water, it is applicable to all the purposes for which common vinegar is used. Vinegar is apt, on exposure to the air, to become turbid and ropy, and at last vapid: it should therefore be kept in bottles completely filled and well-corked. Good French vinegar will keep in perfection many years, if the bottle be not frequently opened.

The manufacture and sale of vinegar are regulated by the act 58 Geo. III. c. 65. An excise duty of 2d. per gallon is levied upon the manufacture; and at present about 3,000,000 gallons are annually brought to charge. Nearly 9000 gallons of foreign vinegar are likewise imported.

VIOLIN. [MUSICAL INSTRUMENTS.]

VITRIOL, or **COPPERAS**, a salt formed by the union of sulphuric acid with oxides of iron, copper, and zinc; the first forming the sulphate of iron, called *green vitriol*; the second, sulphate of copper, or *blue vitriol*; and the third, sulphate of zinc, or *white vitriol*. Sometimes the name of *red vitriol* is given to the sulphate of cobalt. Vitriol, when pure, occurs in beautiful crystals. It is extensively used in dyeing, ink-making, the manufacture of colours, and in medicine.

W.

WAINSCOT, a name applied to the oak imported in logs from N. Europe.

WALNUT, a large European tree (*Juglans regia*), yielding a nut the kernel of which is prized both for the table and for the oil which may be expressed from it. The timber of the tree was much employed in furniture-making before the introduction of mahogany, and it is still extensively used by the turner.

WANGHEES, a kind of canes imported from Canton.

WAREHOUSING or **BONDING SYSTEM**, a system under which certain warehouses are appointed, under the charge of officers of the customs, in which goods may be deposited without being chargeable with duty until they are cleared for consumption. This system affords the most liberal convenience to the merchant, and a general facility to the trade of a country. The tax on a commodity is paid just when it is wanted, and when it is therefore least inconvenient to pay it.

Suppose, for example, that a merchant imports goods, and is required to pay a duty upon them immediately, and before he has found a market for them; he must either pay the tax and hold the goods, in which case the consumer will have to repay not only the tax but the interest on it; or he must sell the goods, and if he parts with them at a loss or inconvenience, trade is injured, and the general wealth and consequent productiveness of taxation proportionally diminished. Besides, the necessity of having to pay duties immediately on importation is a bar to the entrepôt and carrying trade of a country. Notwithstanding the obvious advantages of the warehousing system, however, it is only partially known in foreign countries, and in our own dates no farther back than 1803 (43 Geo. III. c. 132), previous to which the duties on all goods imported had either to be paid at the moment of their importation, or a *bond* was required, with security for their future payment. Since 1803 the system has undergone several improvements, the whole of which are embraced in the existing warehousing act passed in 1833.

Abridgment of the Warehousing Act, 3 & 4 Wm. IV. c. 57, with the Alterations of later Acts, viz. 4 & 5 Wm. IV. c. 89, and 5 & 6 Vict. c. 47, and c. 56, &c.

§ 1. Consolidation of former acts.

§ 2. The Commissioners of the Treasury are to appoint ports for the purposes of the act; and the commissioners of customs, subject to their directions, are to appoint in what places therein, and in what manner, goods may be warehoused.

§ 3. Whenever a warehouse is approved of, it must be so stated in the order of appointment.

§ 4. Appoints warehouses and bonds previous to the act to continue.

§ 5. The commissioners of customs are to provide tobacco warehouses at the legal ports.

§ 6. The treasury and commissioners of customs may revoke any former warrant or order, or make alterations or additions.

§ 7. Orders as to warehouses of special security, must be published in the Gazette.

§ 8. Before any goods are entered in any warehouse, the proprietor or occupier thereof, if he be willing, is to give general security for the payment of the full duties on all goods warehoused, or for the due exportation thereof; and if he be not willing, the different importers must give security in respect of their particular goods.

§ 9. If any warehoused goods be the property of the occupier, and be *bonâ fide* sold by him, on a written agreement signed by the parties, or a written contract of sale made, executed, and delivered by a broker or other person legally authorized for the parties, and the price so stipulated is actually paid or secured by the purchaser, every such sale is valid, although the goods remain in the warehouse; provided that a transfer, according to the sale, be entered in a book to be kept by the officer in charge, who must enter such transfers, upon application of the owners, and produce the book upon demand.

§ 10. Goods to be stowed in warehouse so as to afford easy access; and if taken out without due entry, the occupier is liable for the duties.

§ 11. Warehoused goods, fraudulently concealed or removed, are forfeited; and any person gaining access to the goods, except in the presence of the proper officer, forfeits £500.

§ 12. Within one month after any tobacco has been warehoused, and upon the entry and landing of any other goods, the proper officer is to take a particular account thereof, and mark "Prohibited" on goods prohibited for home use; and no alteration can be made on the packages, except in the cases after mentioned.

§ 13. All goods entered must be carried to the warehouse under the care of the proper officer.

[By 5 & 6 Vict. c. 47, § 52, any person fraudulently removing goods entered to be warehoused, forfeits treble their value, or £100.]

§ 14. Goods warehoused must be cleared for exportation or home use within 3 years, and all surplus stores of ships within 1 year from the day of the first entry (unless further time given

by Treasury); and if any goods be not so cleared, the commissioners of customs may cause them to be sold, the produce to be applied to the payment of charges, and the overplus, if any, paid to the proprietor. When sold, such goods are held subject to all the conditions to which they were subject previous to sale, except that a further time of 3 months from the sale be allowed to the purchaser for clearing. If not so cleared, they are forfeited.

§ 15. If any goods entered to be warehoused, or to be delivered, be lost by accident, commissioners of customs may remit the duties.

§ 16. No goods warehoused can be removed, except upon due entry for exportation, or for home use, except goods to be shipped as stores, and which may be shipped without entry or payment of duty for any ship of the burden of 70 tons at least, bound upon a voyage to foreign parts, the probable duration of which out and home will not be less than 40 days: Provided such stores be borne on the victualling bill, and shipped as the commissioners may appoint.

§ 17. Rum of the British plantations may be shipped as stores without entry or payment of duty, and any surplus stores may be delivered to be reshipped for the same ship, or for the same master in another ship, without entry or payment of duty, if duly borne upon the victualling bills. If the ship for which surplus stores have been warehoused, be broken up or sold, the stores may be so delivered for the use of any other ship belonging to the same owners, or may be entered for payment of duty, and delivered for their private use, or that of the master.

§ 18. Upon the entry of such goods for home use, the person entering them must deliver a bill of the entry and duplicates, as in the case of goods entered to be landed, as far as the rules are applicable, and at the same time must pay the full duties, according to the quantity first taken of the respective packages at the time of the first entry and landing, without abatement, except as by this act otherwise provided; and if the entry be for exportation or for removal to any other warehouse, and any of the packages be deficient, a like entry inwards must be passed in respect of the quantities so deficient, and the full duties be paid on the amount before delivery or removal, except as by this act is otherwise provided; and if any goods so deficient be such as are charged according to value, it is to be estimated at the price for which the like goods of the best quality have been lately sold.

§ 19. The duties upon tobacco, sugar, and spirits, when taken out for home use, are to be charged upon the quantities actually delivered; except that if sugar be not in a warehouse of special security, no greater abatement on account of deficiency is to be made than shall be

§ 38. Nor are they to be delivered, until they or their packages be marked as the commission may deem necessary and practicable.

§ 39. The Treasury may make regulations for ascertaining the amount of any decrease or increase of the quantity of any particular sorts of goods, and direct what statements of duty payable under this act for deficiencies may be made; but if such goods be lodged in warehouses of special security, no duty is to be charged for any amount whatever of deficiency on exportation, except in cases where suspicion may arise that part has been clandestinely conveyed away; nor are such goods (as wine or spirits), to be measured, counted, weighed, or gauged for exportation, except in such suspicious cases.

§ 40. In warehouses not of special security, the following allowances for waste are to be made on exportation, viz:—

Wine, upon every cask, viz:—For any time not exceeding 1 year, 1 gal.; exceeding 1 year, and not exceeding 2 years, 2 gals.; exceeding 2 years, 3 gals.

Spirits, upon every 100 gallons hydrometer proof, viz:—For any time not exceeding 6 months, 1 gal.; exceeding 6 months, and not exceeding 12 months, 2 gals.; exceeding 12 months, and not exceeding 18 months, 3 gals.; exceeding 18 months, and not exceeding 2 years, 4 gals.; exceeding 2 years, 5 gals.

Coffee, cocoa-nuts, pepper, for every 100 lbs., and in proportion for any less quantity, 2 lbs.

§ 41. In cases of embezzlement and waste through misconduct of officers, damages to be made good to the proprietor. [By 5 & 6 Wm.

IV. c. 65, § 4, it is provided that nothing contained in this section shall be held to extend to loss occasioned by fire, and by 5 & 6 Vict. c. 47, § 50, the commissioners are authorized to remit the duties on any goods destroyed "by any unavoidable accident" in the warehouse.)

§ 42. Upon the entry outwards of goods to be exported from the warehouse, and before cocket is granted, the person in whose name they are entered must give security by bond in double the value of the goods, with one surety, that they shall be duly exported, and landed at the place for which they are entered outwards, or otherwise accounted for.

§ 43. Requiring bond on the exportation of beef or pork that they are not to be used as stores, is repealed by 5 & 6 Vict. c. 47, § 42.

§ 44. No goods are to be exported from the warehouse to the Isle of Man, except such as may be imported thither in virtue of license.

§ 45. All goods must be removed under the care of the proper officer.

§ 46. Warehoused goods must not be exported in ships under 70 tons burden.

§ 47. Goods landed in docks, and lodged in the custody of the proprietors thereof, under this act, not being seized as forfeited, are to continue liable to such claim for freight as they were liable to whilst on board; and the directors and proprietors of such docks are authorized, upon due notice by the master or owners, or others interested, to detain such goods until the freights and other charges be duly satisfied, or until a deposit be made equal in amount to the claim.

WARRANTY, in the contract of insurance, is an engagement on the part of the insured, that a certain thing has happened, or is to happen. It is part of the consideration for which the underwriter accepts the engagement; it is therefore an absolute condition, and if it do not occur as specified, the insurance is void, whether the circumstance be owing to the conduct of the insured or not, and whether it affect the risk or not. Warranty and mere representation differ from each other in this, that the former must absolutely agree with the event to the most minute particular, while the latter only requires to agree in substance, and does not affect the contract, unless through fraud or negligence it shall have increased the actual risk. It is divided into express and implied,—the latter being merely used to express the conditions on the part of the insured necessarily arising from the nature of the contract; as, that the ship shall be seaworthy, navigated with skill and care, that the voyage is lawful, and shall be performed without wilful deviation, &c. The most important and ordinary warranty during peace, is generally as to the time of sailing. Where a ship is warranted "*to sail*" on a particular day, she must be really on her voyage, having made every preparation, by having taken in her whole cargo, cleared at the custom-house, &c.; and if so prepared for her voyage, and having set sail, she be afterwards detained in some port of the same territory, as by an embargo, or to form convoy, it will be held as compliance; but not so if the preparations for commencing the voyage have not been completed, or if, having been completed, the vessel is prevented from breaking ground by stress of weather or otherwise. "As to the question, what shall amount to a *sailing*, to satisfy the warranty, there can be no doubt that, where a ship once breaks ground, and is fairly under sail *upon her voyage*, though she go ever so little a way, and afterwards put back from stress of weather, or apprehension of an enemy in sight; or if she be then put under an embargo, and detained beyond the time of sailing; this is still a *beginning* to sail, and the interruption does not alter the case, because the warranty is already complied with" (*Marshall*, 365). There is a distinction between a warranty to sail, as above, and a warranty to *depart*, the latter being held to import that the vessel is finally out of port.

All express warranties must appear on the face of the policy. It does not require, however, to appear in the body of the policy,—a note on the margin suffices. [SEAWORTHINESS and DEVIATION.] (*Park on Insurance. Marshall on Insurance.*)

For warranty in insurance against fire and on lives, see **INSURANCE**.

WATCH (Fr. *Montre*. Ger. *Uhr, Taschenuhr*), a pocket timepiece composed of wheels and pinions,—a regulator to direct the quickness or slowness of the wheels, and a spiral spring which communicates motion to the whole. *Chronome-*

ters are watches having the variable force of their mainspring equalized by a fusee or variable lever, and also an expansion balance as a compensation for heat and cold. Nautical chronometers are larger machines of the same kind, secured in a box, and used for ascertaining the longitude at sea.

Spring watches were invented about 1658 by Dr Hooke, or as some contend in 1656 by Mr Huyghens, and various improvements have been since effected in their construction. In 1764, a chronometer made by J. Harrison of London was adjudged to entitle him to the premium of £20,000 originally offered by Queen Anne for the discovery of the longitude. Besides Harrison, the names of Mudge, Earnshaw, sen., Arnold, sen., Brockbank, and Arnold & Dent, have attained celebrity as chronometer-makers.

Watch movements are made chiefly in London, Coventry, and Lancashire; but they are polished and adjusted in most large towns throughout the kingdom. Watch-cases, though not subject to any duty, are stamped at the assay offices to determine the fineness of the metal. The annual value of the manufacture in this country is estimated at £1,500,000, and nearly 20,000 British watches are annually exported.

The principal seat of the watchmaking trade on the continent is Switzerland. In that country, says Dr Bowring, it is carried on in the mountainous districts of Neuchatel, where nearly 120,000 are produced annually, in the canton of Berne, and in the district of Geneva. "Switzerland has long furnished the markets of France; and though the names of certain French watchmakers have obtained a European celebrity, yet I was informed by M. Arago that an examination into this trade had elicited the fact that not ten watches were made in Paris in the course of a year, the immense consumption of France being furnished from Switzerland, and the Swiss works being only examined and rectified by the French manufacturers. The contraband trade into France was immense." (*Report on Switzerland*, p. 34.) The Swiss and French watches, however, are commonly much inferior to the English, being in general single-cased and flimsy in their construction.

WAX (Du. *Wasch*. Fr. *Cire*. Ger. *Wachs*. It. *Por.* & *Sp. Cera*. Rus. *Wosk*), or *Bees' Wax*, a firm solid substance, moderately heavy, and of a yellow colour, formed by melting the comb into cakes after expressing the honey. The best is that of a lively colour, and an agreeable odour something like that of honey. When new it is toughish, yet easy to break; but by age it becomes harder, more brittle, loses its fine colour, and in a great measure its smell. Wax is generally bleached and used in making candles. It is also used in taking casts and moulds, and as an ingredient in cerates and ointments. In addition to our large home supply, about 8000 cwts. are annually imported, chiefly from W. coast of Africa, Barbary, and the E. Indies; but in small quantities also from the W. Indies, United States, Germany, and France.

WEIGHTS. [MEASURES.]

WELD, a plant (*Reseda luteola*) formerly cultivated in Britain for the yellow dye which it yields; but which is now superseded by quercitron.

WESTERN AUSTRALIA, a British colony, comprising the settlements of Swan River and King George's Sound, lies between lat. 31° and 35° 8' S., and to the W. of long. 125° E., on the S. W. corner of that continent.

This colony was founded in 1829; but being established on principles which led to the dispersion of the early settlers, its progress was discouraging until of late, when affairs were placed on a more hopeful footing, chiefly through the exertions of the Western Australian Company.

The leading geographical feature is the Darling range, extending N. and S., parallel to and about 50 miles distant from the W. coast; and from whence the Swan, Avon, Murray, and other rivers running to the westward take their rise. The soil is of a mixed character, and the climate resembles that of E. Australia. The capital is Perth, on the river Swan, which has also Freemantle near its mouth; and at King George's Sound, on the S. coast, are the insignificant towns of Augusta and Albany; but there are scarcely any commodious harbours. The statistics of the colony in the year 1840-41 were as follows:—Population, 4000; stock of every kind, 40,000; shipping entered inwards, 30,000 tons. Exports of wool, 50,000 lbs.; revenue, £9,650.

AUSTRALIND lies to the N. of the preceding settlement, between Gantheaume Bay, in lat. 27° 40', and the Arrowsmith River, in lat. 29° 30' S. Its great recommendation is the fine harbour of Port Grey, in lat. 28° 55' S. An extensive tract of the country has been purchased by the Western Australian Company from the British government; and colonization is proceeding on the principle which has been applied in **SOUTH AUSTRALIA**.

WEST INDIES (BRITISH), comprise Jamaica, one of the Greater Antilles; a variety of the smaller islands forming the Caribbean Chain, classed as Windward and Leeward; and the Bahamas. Total population, 714,720,—more than four-fifths being emancipated negroes. These islands have, with few exceptions, colonial governments, with an elective legislative assembly, who enact all local laws, subject, however, to the veto of a governor appointed by the crown.

The general aspect of the West India archipelago is mountainous. Many of the islands exhibit manifest proofs of volcanic origin; and they are all subject to violent shocks of earthquakes. Their soil is in general productive far beyond that of most parts of Europe; moisture and heat combining to produce a surprising luxuriance of vegetation. The year, as in most tropical climates, is divided into two seasons, the *dry* and the *wet*; yet four may be distinguished,—the spring, with gentle showers in April and May; the hot sultry summer, from May till October, when the heavy autumnal rains begin, and continue till December; from which till April, in fact the winter, serene and cool weather prevails. Between August and the end of October, the islands, except Trinidad and Tobago, which lie farthest S., are subject to furious hurricanes; these, however, are not very frequent, and are unknown except during this short period.

Jamaica, the most important of the British West India Islands, extends 100 miles S. of Cuba, is 100 miles long by 40 to average breadth. It is covered from E. to W. by the lofty Blue Mountains, covered with majestic forests. On the N. side the surface rises from the shore with gentle undulations, separated by spacious valleys, and clothed with pine-tree groves and coffee plantations. On the S. side the land is higher and intersected with hill ranges, between which are extensive meadows and sugar-cane fields. But upon the whole the island though well watered and in some parts fertile, is not generally productive and requires skillful cultivation to make it yield heavy crops. The seat of government is Spanish Town, it has inland 10 miles distant from Kingston, the principal town, situated on Port Royal, on the S. coast, in lat. $17^{\circ} 50' N$, long. $76^{\circ} 40' W$, pop. 21,000. The other parts, all free are Morant, Black River, and Savanna-la-Mar, also on the S. coast, and Lovers and Montego Bay, Port Antonio, St. Ann, Port Maria and Ansonia, and Ansonia Bay on the north.

Windward Islands. Barbados, the most easterly of the Caribbean chain and eldest of the British W. India colonies, is about 81 miles in length and 14 in breadth. The surface, though irregular is comparatively low, and is almost all highly cultivated, while, being directly exposed to the N. E. trade-wind, it is cooler and more salubrious than any of the other islands. Capital, Bridgetown, in Barbadoes Bay on the S. W. coast, in lat. $13^{\circ} 8' N$, long. $59^{\circ} 41' W$, pop. 22,000.

St. Vincent, 100 miles W. from Barbados, extends about 17 miles from N. to S. It is rugged and mountainous, and only about one third is under cultivation; but the soil of the great part is well adapted for sugar. Capital, Kingstown, on the S. W. coast. The Grenadian islands are dependent on St. Vincent.

St. Lucia, about 80 miles N. N. E. St. Vincent, is rather fertile, though hilly; but the climate is moist variable, and suited for its cultivation. Capital, Castries.

Grenada, 60 miles S. S. W. St. Vincent, is also fertile, but unhealthy. About 3/4ths of the surface is cultivated. Capital, Port George.

Trinidad, 10 miles N. E. Trinidad, is exceedingly mountainous, with a climate resembling the latter. Cultivation is mostly confined to low lands, on the S. side, where is situated Georgetown, the capital, in lat. $11^{\circ} 15' N$, long. $60^{\circ} 40' W$.

Trinidad, taken from Spain in 1797, is the most southerly of the Windward Islands, and is only 13 miles distant from the N. E. coast of Venezuela in S. America. It is covered from W. to E. by three mountain chains, well wooded, and the valleys and plains are said to be naturally extremely fertile; but the greater portion of the interior is uncultivated, and indeed partly unexplored. The settled districts are mostly confined to the N. W., and a few places along the S. W. coast. Capital, Port Spain, with a good harbor on the W. side.

Leeward Islands. Antigua, 60 miles N. Grenada, is oval-shaped, and about 35 miles in length. It has comparatively little of the mountainous character, is without rivers, and its climate is remarkable for its want of moisture. Capital, St. John, on the N. W. side, in lat. $17^{\circ} 12' N$, long. $64^{\circ} 40' W$, but the best part is English Harbour on the S. coast.

St. Christopher or St. Kitts, 20 miles W. by N. Antigua, abounds in rugged barren mountains, but the soil on the plains is exceedingly rich. Capital, Basseterre on the S. W. side.

St. Vincent, lying between Grenada and Martinique, contains high rugged hills, interspersed with well watered valleys having a light soil, adapted rather for coffee than sugar. Port Elizabeth, or Charlotte Town, the capital, on the S. W. side and Prince Rupert's Bay on the N. W.

The only others worth notice are Nevis 3 miles S. E. St. Kitts, a beautiful spot though only a single mountain capital, Charlestown. Montserrat 20 miles S. E. Nevis, of which two thirds are mountainous or barren, capital, Plymouth. Anguilla a long flat island, contiguous to St. Martin and 45 miles N. W. to Nevis. Barbuda a level fertile island, the property of the Codrington family, 25 miles N. Antigua. And Tortola, Virgin Gorda, Anegada, and others of the Virgin Islands a cluster of hilly islands adjoining Porto Rico.

The Bahamas or Levant are a chain of low islands usually covered with soil, growing from Florida to Hayti on the remarkable sand bars and coral reefs called the Bahama Bank. Principal island New Providence containing Nassau, the capital.

The great staples of the West Indies are sugar, rum, molasses, and coffee, many also produce cotton (chiefly Trinidad and Grenada), cotton, and tobacco, and some indigo, guano, gum, hyacinth root and other hard-woods and drugs. There are almost wholly shipped to the East Kingdom, and the following table shows the total quantities of the leading articles exported in 1860 and 1861 from the different islands, to which, for the sake of comparison, we have added the quantities brought from Demerara and Barbados. (Glasgow.)

	Area	Population	1860			1861		
			Sugar	Rum	Coffee	Sugar	Rum	Coffee
Jamaica	6,100	270,000	4,200,000	2,300,000	600,000	3,900,000	2,200,000	500,000
Barbados	160	12,000	1,200,000	600,000	200,000	1,100,000	500,000	100,000
St. Vincent	130	20,000	1,000,000	500,000	100,000	900,000	400,000	100,000
Trinidad	3,500	100,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Kitts	125	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
Nevis	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
Antigua	1,000	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Christopher	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Lucia	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Martin	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Pierre	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Paul	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Peter	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. John	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000
St. Thomas	100	10,000	1,000,000	500,000	100,000	900,000	400,000	100,000

The great falling off between 1831 and 1841 is attributable mainly to the change produced by the measure of negro emancipation ; but of late years there have likewise been deficient crops arising from ordinary causes.

The imports consist of lumber from British America : herrings, codfish, flour, salt beef, and other kinds of provisions ; wine ; and manufactures of all kinds from the mother-country. On an average of the five years to 1841, the declared value of British produce and manufactures carried to our West India colonies (including Guiana), amounted to £3,400,000. Of this, however, a considerable portion is destined for re-exportation to the Spanish main.

Vessels with homeward cargoes begin to arrive in Britain in April and continue till October. And the annual orders for plantation stores are received by our West India merchants in autumn, distributed amongst the manufacturers or dealers in September and October, and shipped in November and December.

Measures and Weights, same as Britain. *Money*.—Accounts are now generally kept in sterling ; but in some places in dollars, which by proclamation, September 21, 1838, are valued at 4s. 2d. sterling each : the value of the gold doubloon is fixed at £3, 4s. The Colonial Bank, instituted in London, 1836, has branches in most of the islands, which issue notes, and otherwise conduct business on the Scottish system. [See COLONY. SLAVE. SUGAR.]

WEST INDIA ISLANDS (FOREIGN), embrace, besides HAYTI, now independent, the following possessions of European powers :—

SPAIN has the magnificent island of CUBA, already described. *Porto Rico*, a large, well watered, fertile, and comparatively healthy island, 80 miles E. of Hayti ; area, 3,700 square miles ; population, 360,000, including only 42,000 slaves : Capital, San Juan : chief exports in 1839, 692,458 cwts. sugar ; 85,434 cwts. coffee ; and 3,311,720 gallons molasses. Also the islets *Margarita*, *Testigos*, *Tortuga*, *Blanquilla*, *Orchilla*, *Rocca*, and *Aves*.

FRANCE possesses *Guadeloupe*, 40 miles S. E. Antigua, consisting really of two islands, Grande Terre and Guadeloupe Proper or Basse Terre, separated by the Salt River Channel. Chief ports, Basse Terre, the capital ; and Point-à-Pitre, nearly destroyed by an earthquake, February 1843. Chief exports in 1836, 36,377,548 kilog. sugar ; 2,554,424 kilog. molasses ; 915,354 kilog. coffee. *Martinique*, 20 miles N. St Lucia ; capital, Fort Royal ; chief exports in 1836, 22,994,754 kilog. sugar ; 2,483,593 litres molasses ; 519,507 kilog. coffee. Also the islets *Marie Galante*, *All Saints*, *Descada*, and *St Martin* (N. part).

HOLLAND has *Bonaire*, *Curaçoa*, *Oruba*, *St Martin* (S. part), *Saba*, and *St Eustatius*.

DENMARK possesses *St Thomas* and *St John* in the Virgin group ; also *St Croix*.

SWEDEN has only *St Bartholomew*.

The geographical character, productions, and course of trade of these islands, are similar to those of the British West India Islands.

WHALE, a cetaceous class of marine animals, of which there are several species ; the principal being the Greenland whale (*Balæna mysticetus*, Linn.), usually from 50 to 60 feet in length, and from 30 to 40 feet in circumference, inhabiting chiefly the Arctic seas ; and the spermaceti whale, already described. [SPERMACETI.] Both are of commercial importance on account of the oil contained in their fat or *blubber*, and of the *whalebone*, or horny laminæ in their upper jaw, which is applied to various useful purposes ; and large fleets are fitted out for their capture.

The Northern Whale Fishery originated in the discoveries of the voyagers who, in the end of the 16th century, attempted to find a passage through the Northern Ocean to India. It was first pursued, by the English and Dutch, in the seas of Greenland and Spitzbergen ; and their example was speedily followed by others. The fishery was long confined to these seas ; but after 1815, they were gradually abandoned for Davis' Straits, where also whales have recently become so scarce, that their pursuit by British vessels has nearly ceased. In the twenty years ending 1834, the average annual number of our ships employed in this fishery, was 120 ; aggregate burden, 37,000 tons ; procuring 1024 whales, yielding 11,313 tons oil, and 590 tons whalebone ; making the annual produce, at the average prices of £28, 15s. per tun for oil, and £163 per ton for whalebone, about £420,000. The vessels were fitted out mostly from the north-eastern ports. But this great fishery, which in 1820 employed 50,000 tons of shipping, manned by our best seamen, now engages only one or two vessels from Peterhead and the adjoining ports.

The Southern Whale Fishery was begun by the British during the interruption which the northern fishery suffered owing to the American war, and it gradually rose to importance. It consists of two branches :—1st, The capture of the spermaceti whale, the cruising ground for which extends from the meridian of Japan to beyond Australia, and longitudinally from Cape Horn to the Indian Archipelago : the vessels are found and provisioned for three years, the period of their general absence from England : 2d, The common black whale of the Southern seas, met with principally on the S.E. coast of South America. Of late years, this fishery has also fallen off ; and, in 1840, the shipping fitted out from Britain, for both the Northern and Southern fisheries, amounted to only 15,000 tons. It has also been nearly abandoned by the Australian colonists, by whom it was prosecuted for some years, owing to the greater profits derived from investing their capital in sheep-farming.

Notwithstanding this decline of the British fishery, however, it would appear that the activity and enterprise of the Americans can still render whaling voyages so profitable, that, in 1841, they had engaged in them no fewer than 193,000 tons of shipping. See UNITED STATES.

WHARF, a sort of quay erected contiguous to a harbour or roadstead. *Wharfage*, the dues payable for its use in the landing or shipping of goods.

WHEAT (Dan. *Hvede*. Du. *Tarw*. Fr. *Froment*, *Blé*. Ger. *Weitzen*. It. *Grano*, *Formento*. Por. & Sp. *Trigo*. Ru. *Pscheniza*), the most valuable of the bread-corns of the temperate zone, is a plant of which there are numerous species ; the most important in Britain and Northern Europe being Winter or Lammas Wheat (*Triticum hybernum*). It is generally sown in autumn, but often in spring,

in which case it is sometimes called spring-wheat. Of this species there are numerous varieties ; but they may be divided into two classes, red and white ; the former the more hardy, but the latter excelling in the quality of their produce. The best soils for wheat are those which are stiff or clayey. From two to three bushels of seed are required to the acre ; and the produce, though very variable, may be held for a fair crop to be 30 bushels per acre. But the average produce of England does not perhaps exceed 22 bushels, nor that of Scotland 25. The weight of the straw is reckoned to be about double that of the grain. An acre, therefore, yielding 25 bushels of wheat, at the rate of 60 lbs. per bushel, would yield 3000 lbs. of straw, or about 26½ cwt. (*Low's Agriculture.*) The average yield of flour is 12½ lbs. to 14 lbs. of grain. In the United Kingdom, wheat is produced chiefly in England, particularly in the counties of Kent, Essex, Suffolk, Rutland, Hertford, Berks, Lincoln, Hants, and Hereford. In Scotland, and especially in Ireland, the climate is in general too cold and moist for the profitable culture of wheat ; though, in the counties of Haddington, Edinburgh, Linlithgow, Perth, Forfar, and Stirling, there are extensive tracts distinguished both for the quantity and quality of their produce. [CORN.]

WHISKY, a spirituous liquor distilled from barley, and called *malt* or *grain* spirit, according as more or less of the former is used in the process. Malt whisky is esteemed the best, especially when the distillation is conducted slowly in small stills. This spirit is largely manufactured in Scotland, Ireland, and the United States. The finest is the Scotch, especially that of the Highland distilleries.

WHITEBAIT, a small species of herring (*Clupea alba*), caught in the Thames below Woolwich, from April to September.

WHITING, a fish of the cod kind (*Merlangus Vulgaris*, Cuv.), caught in abundance all round our coast, particularly in January and February.

WINE (Du. *Wyn*. Fr. *Vin*. Ger. *Wein*. It. & Sp. *Vino*. Por. *Vinho*. Rus. *Wino*), is the fermented juice of the grape. The varieties of wine depend chiefly on the quantity of sugar contained in the *must*, and the manner of its fermentation. When the quantity of sugar is sufficient and the fermentation complete, the wine is generous and perfect ; if the proportion of sugar be too small, the wine is thin and weak ; if it be too large, part of it remains undecomposed, and the wine is sweet and luscious ; and if it be bottled before the fermentation is completed, it will, as in the case of champagne, proceed slowly in the bottle, and on drawing the cork, the wine will sparkle in the glass. When the must is separated from the husk of the grape, before it is fermented, the wine has little colour, and is called *White wine*. But if the husks are allowed to remain in the must while it is fermenting, the alcohol dissolves the colouring matter of the husks, and the wine is coloured ; such is called *Red wine*. Wines besides vary much in flavour ; a quality which, in a few kinds, is imparted by nature, but which in the general case is produced by the art of the manufacturer.

The vine is a hardy plant, but agrees best with light gravelly soils, or those abounding in volcanic debris, and a temperately warm climate. In colder countries, the grape-juice becomes too poor, and in warmer too saccharine for wine-making. In Europe, the wine district is comprised between lat. 36° and 51° N., within which limits almost all the wines of commerce are produced ; and from whence large quantities are sent to the N. of Europe and to America. In the east, comparatively little is grown or used ; being forbidden to the Mohammedans as the cause of " more evil than profit ;" and never taken by the Hindoos but as a medicine. In China, rice and palm wine are made in large quantities, but little is made from the grape ; though of late they have evinced a taste for European wines, particularly sherry.

DESCRIPTIVE TABLE OF THE PRINCIPAL WINES.

" FRANCE is the vineyard of the earth. Her fertile soil, gentle acclivities, clear sunny skies, and fine summer temperature, place her, in conjunction with her experience and the advantages of science applied to vinification, the foremost in the art of making the juice which so gladdens the human heart " (*Reidling*, pp. 53, 57). The departments which excel in the quality, though not in the quantity, of their produce, are those comprised in the ancient provinces of Burgundy and Champagne, whence the wines derive their names.

Burgundy, grown chiefly in the department of Côte d'Or, is a fine dry wine, of the most exquisite delicacy, flavour, and *bouquet*. It is

light, yet with sufficient body and spirit. It is made both red and white ; but the latter is little known in Britain. The choice red growths are *Romanée Conti*, *Chambertin*, and *La Tache*. The best white is *Mont Rache*. Alcoholic strength, 15 per cent. Burgundy, however, possesses greater stimulant powers than can be explained from this proportion of spirit.

Champagne, a class of light wines of superior delicacy, divided into red and white kinds, each either *still* or sparkling (*mousseux*). The red is little known in Britain. The white is generally in perfection the third year of bottling. The still is comparatively strong and heating,—but when of superior quality, has the

peculiar aroma of the wine in an eminent degree. The sparkling is chosen of moderate effervescence; that which merely creams on the surface (*demi-mousseux*) being preferred to the full frothing wine (*grand-mousseux*); which last also keep worst. Champagne is improved in summer by ice. Alc. strength, sparkling, 12 per cent.; still, 14 per cent. *Sillery* is a white still kind of the first class, produced near Rheims.

Claret is a name given in England to the red wine of Medoc, in the Gironde, imported from Bordeaux; or more commonly a mixture of that wine and *Beni Carlos*, or some other full wine. In France, *Claret* is a general name for all rose-coloured wines. When in perfection, claret should be of a rich colour; a bouquet partaking of the violet, and of a very agreeable flavour. The prime growths are *Lafille*, *Latour*, and *Margaux*. It is less heating, and more aperient than most other wines; but is comparatively short-lived: it is preferred when about 10 years old. Alc. strength, 15 per cent.

Sauterne, a fine dry lightish-brown wine, is also the growth of the Gironde; as are likewise *Pontac* and *Barsac*, both durable, dry, and also lightish-brown in colour.

Graves, a class of wines of the Bordelais. The white kinds have a dry flinty taste, with an aroma resembling cloves: the choicest are *St Bris* and *Carbounèux*. Of the red kinds *Haut Brion* ranks highest. They keep for 20 years.

Hermitage is grown near Tain on the Rhone. The white variety is of superior quality; it is of a straw-yellow colour, rich taste, very peculiar odour, and lasts nearly a century without deterioration. The red variety is short lived.

Côte Rôtie is a red wine, grown near Lyons. Though slightly bitter, it excels in clearness, colour, and perfume.

Rousillon, a class of wines, the best of which have body and fineness, and at first are very sweet and of a deep colour; but in eight or ten years they acquire a golden hue and a delicate agreeable taste. *Masdeu*, one variety, is said to combine in some degree the fulness and vinous properties of Port, with the flavour, aroma, and bouquet which characterize the French wines.

Frontignan, a muscadine wine of Languedoc, occurs both red and white; and will keep about 20 years in bottle: when old it resembles Malaga. *Lunel*, also grown in Languedoc, resembles Frontignan, but is stronger.

Rivesaltes, a rich white muscadine, grown near the Pyrenees, belongs to the class called in France *vins de liqueur*.

SPAIN follows France in the excellence of its wines. And from north to south, sites, soils, and exposures of the happiest kind for the vine, cover the face of the country.

Sherry, the most important, grown at Xeres near Cadiz, is made both pale and brown. The pale is generally preferred; but "sherries are never to be judged by colour, but solely by taste." When good, this wine has a fine flavour, warm taste, and some portion of the agreeable bitterness of peach-kernels. When new, it is harsh and fiery, but is mellowed by being kept four or five years in wood: it does not attain perfection until 15 or 20 years old. When of a due age and good condition it is very fine and wholesome, and free from excess of acid, with a dry aromatic flavour and fragrantcy which render it a fit stimulant for delicate stomachs. Of late years its manufacture has been greatly improved,—alc. str. 20 per cent. *Amontillado* is a rare, dry, delicate kind of sherry.

Pazarette, made near Xeres, from the sherry grape, is a rich cordial malmsey wine, sparkling, and of a light amber colour. *Tent*, likewise grown near Cadiz, is a rich red muscadine, drank generally as a stomachic.

Malaga is a secondary kind, with a peculiar taste, from being mingled with wine burned a little in the boiling. *Lagrimas Malaga* is made from the droppings of the grape without pressure. *Mountain* is a sweet variety of Malaga.

Beni Carlos is a deep red wine imported from Valencia.

THE SPANISH ISLAND of Majorca, and the Madeiras and Canaries, likewise produce good wine.

Alba Flora is a white kind, grown in Majorca; it approaches Sauterne in flavour.

Madeira is a strong dry white wine, uniting great strength and richness of flavour, with a fragrant and diffusible aroma. It is mellowed and improved in flavour by a voyage to India. It is very durable, and indeed is said not to be in condition until it has been 10 years in wood and 20 in bottle. It is highly stimulant, and is well adapted for debilitated constitutions; though in its purest form more acid than either port or sherry. Alc. str. 22 per cent. *Sercial* is a fine kind of Madeira; and *Malmsey* is a very rich luscious species of the highest quality, made from over-ripe grapes. *Tinto* is a red kind, wanting the high aroma of the white sorts, and when old resembling tawny port.

Teneriffe, or *Vidonia*, is a dry canary wine resembling Madeira, but inferior.

PORTUGAL.—*Port*, a red wine of the Upper Douro, is, when new and unmixed, rough, strong, and slightly sweet; but after being kept in bottle, it loses some of its astringency and most of its sweetness, while its flavour is improved. Being, however, largely brandied, it requires, if imported *green*, to be kept three or four years in wood, and from four to seven in bottle, before the odour of the brandy is subdued, and the genuine aroma of the wine developed. It is heating, but when of good quality, wholesome; though peculiarly noxious when taken in excess. Alc. str. 22 per cent.

Lisbon is a secondary wine. *White Lisbon* resembles inferior Madeira; it is made both dry and muscadine. *Red Lisbon* is coarse and dry.

Bucellas, a light white wine grown near Lisbon, resembles Barsac when pure; but, as imported, it is fiery from sophistication with brandy.

Carcavellas, also imported from Lisbon, is a sweetish white wine grown near Ceira.

Figueira, is a strong coarse red wine.

GERMANY produces little good wine except on the banks of the Rhine (chiefly between Bonn and Mayence), and its tributaries, the Mayn, Moselle, and Neckar. The growths of these districts, however, form a class of a peculiar and distinct character. They are generous, dry, finely flavoured, and endure age beyond example. They average about 12 per cent. of alcohol. The inferior kinds are naturally acid, but this is not, as is sometimes alleged, the constant character of the German wines. Of the Rhine wines the choicest is *Johannisberg*; of the Mayn wines, *Hockheim*, or, as it is called in England, *Hock* (a term sometimes vulgarly applied to all German wines); of the Moselle wines, *Braunberg*; and of the Neckar wines, *Bessingheim*.

AUSTRIA possesses scarcely any but poor wines; but Hungary produces the celebrated

Tokay, a rich luscious wine, of a peculiar aromatic flavour; it is, however, scarce, dear, and little known in Britain.

ITALY has none of any celebrity except

Lacryma Christi, a first class wine, grown only in small quantities near Naples. It is luscious, rich, red, and of exquisite flavour.

SICILY produces and exports wine in abundance; but it is generally of very low quality, and fiery from mixture with coarse brandy.

Marsala or *Bronte Madeira*, is a dry white wine, of great body, resembling second class Madeira.

Syracuse, is the name given to a luscious red muscadine; also to a white *vin de liqucur*.

Atina, the best, is a strong red wine.

CAPE OF GOOD HOPE. The Cape wines, except *Constantia* (a rich luscious kind), are of the worst description, being generally infected with the earthy taste common to wines grown on bad soils. Some are sweet, but the larger part are dry. They are called *Cape Madeira*, *Cape Sherry*, *Cape Hock*, &c.

In 1841, the quantity of wine imported into the United Kingdom was 7,708,502 gallons: and there were entered for consumption 2,412,821 gallons Spanish; 2,387,017 Portuguese; 353,740 French; 107,701 Madeira; 55,942 Rhenish (or German); 25,635 Canary; 137 Payal; 441,238 Cape; and 401,429 Sicilian and other sorts; total, 6,184,960 gallons. On January 5, 1842, there were under bond, 10,775,380 gallons; whereof in London, 6,618,569; and in Dublin, Leith, and other ports, 4,156,811 gallons. The surplus imported beyond the consumption is re-exported chiefly to India and our colonies in Australia and America.

Prior to 1693, the wines of France were those chiefly consumed in this country; but the higher duties imposed on them in that year, and the fiscal advantages given by the Methuen Treaty to Portuguese wines in 1703, led gradually to the former being nearly superseded by the latter and the wines of Spain. And after 1793 (when Britain used about 7,000,000 wine gallons yearly), the consumption of all kinds was checked by the extravagant duties imposed for the prosecution of the war. In 1825, these were modified to 7s. 3d. per (Imp.) gallon on French wine; 4s. 10d. on other foreign sorts; and 2s. 5d. on Cape; and in 1831, when the discriminating duty on French wine was abolished, they were fixed at 5s. 6d. per gallon on all foreign wines, and 2s. 9d. on Cape. Since the reduction in 1825, a considerable increase has taken place in the consumption of sherry.

The *Standard Gauges* of wine recognized in trade are—pipe of Port, 115 gals.; pipe of Lisbon, 117 gals.; pipe of Cape or Madeira, 92 gals.; pipe of Teneriffe, 100 gals.; butt of Sherry, 108 gals.; hogshead of Claret, 46 gals.; aum of Hock, 30 gals.—all Imperial measure.

Farther information will be found under CUSTOMS REGULATIONS, WAREHOUSING SYSTEM, and in the articles on the different wine countries; also in the well-known Treatises on Wine by Dr Henderson and Cyrus Redding.

WINTER'S BARK (*Wintera aromatica*), a spice resembling canella alba.

WOAD, a plant (*Isatis tinctoria*), from the roots and leaves of which a blue dye is obtained; but its use is now almost entirely superseded by indigo.

WOOD. [TIMBER.]

WOOL (Du. *Wol*. Fr. *Laine*. Ger. *Wolle*. It. and Sp. *Lana*. Por. *La, Lana*. Rus. *Wolna*, *Scherst*), the fleecy covering or *pile* of the SHEEP. Wools are distinguished by their length or *staple*, and by the fineness of their filaments. Long wool, commonly that which exceeds 3 inches in length, is best adapted for the manufacture of worsted stuffs; while short wool, that less than 3 inches, is chiefly employed for cloths and other articles. These two kinds, which are the produce of distinct varieties of sheep, are also distinguished by the manner in which they are prepared for being spun. The long wools, like flax, are combed; while the short wools are carded; whence the former are familiarly termed *combing wools*, and the latter *carding* or *cloth wools*. In England, the chief long-woolled sheep is the *Leicester*, and the chief short-woolled the *South Down*. The fleece of the latter is very fine; it is, however, greatly inferior to that of the *Merinoes*, a Spanish breed, but which has been introduced with signal success into Germany, Australia, and the Cape Colony.

Wool ought to be pliable, elastic, and above all, soft to the touch, a property for which the Saxon wools are noted: the filament too ought to be regular, it should be free from hairs or *kemps*. Farther, it ought to be curly or crispy, with the peculiar property of felting. Each fleece contains wool of different qualities; the best is that on the spine and sides. And that shorn from the live sheep, called *fleece wool*, is superior to that cut from its skin after death, called *dead wool*: the latter being comparatively harsh, weak, and incapable of imbibing the dyeing principles, an objection to which also black wool is liable. The assorting or *stapling* of wool is sometimes performed by the manufacturer, but chiefly by *wool-staplers*, who purchase the raw material from the grower, and dispose of it, after it is assorted, to the manufacturer.

The exportation of wool was prohibited in 1660, mainly from a desire to preserve to ourselves the English long wool, a kind not produced in any other country; but this policy was more injurious to the agriculturist than beneficial to the manufacturer, and the improvements in machinery having enabled short wools to be applied to many of the purposes for which long wool had been appropriated, the prohibition was withdrawn by Mr Huskisson in 1825. Since then the exports of British wool have gradually increased, and in 1841 amounted (exclusive of yarn) to 8,471,235 lbs., of which 7,544,196 lbs. went to Belgium, and 894,704 lbs. to France.

The importation of foreign wool into Britain was free until 1802, when it was subjected to a duty of 5s. 3d. per cwt.; which was gradually raised to 6s. 8d. in 1813; and in 1819 (by Mr Vansittart) to 56s. per cwt., or 6d. per lb. This extravagant rate was gradually reduced in 1824 and 1825 to 1d. per lb. on wool under 1s. per lb. in value, and to 1d. per lb. on higher sorts. In 1819, the duty on colonial wool was fixed at 1d. per lb., and since 1825 it has been admitted free.

Prior to 1800, our annual imports of wool seldom exceeded 3,000,000 lbs.; afterwards they rapidly increased, but down to 1814 they chiefly consisted of Spanish produce. Since the peace, the great source of supply has been Germany; though of late years considerable quantities have likewise been brought from Australia, India, S. America, and the Cape Colony. In 1841 there were imported from Germany, 20,958,775 lbs.; Russia, 4,131,652 lbs.; Denmark, 778,256 lbs.;

ASIA produces no wine for exportation, except perhaps the celebrated *Shiraz* of Persia, some of which is occasionally sent to India.

AMERICA. Wine is made both on the north and south continent, particularly in N. Carolina; in Peru and Chili; and at Mendoza in Buenos Ayres, near the Andes; but none is shipped to Europe.

AUSTRALIA. Some attention is bestowed on wine in the colony of NEW SOUTH WALES.

great degree superseded the lower qualities of cloths ; a circumstance which, joined to the increasing rivalry of France, Germany, and Belgium, renders it improbable, unless new markets shall be opened in China or elsewhere, that much extension will in future be given to our manufacture of woollen cloths.

In 1841. exports consisted of 213,125 pieces cloth ; 11,491 pieces napped coatings, duffles, &c. ; 22,131 pieces kerseymeres ; 37,160 pieces baize ; 2,147,366 pieces woollen or worsted stuffs ; 1,820,244 yards flannel ; 2,187,329 yards blanketing ; 816,315 yards carpeting ; 5415,167 yards woollens mixed with cotton ; 135,900 dozen pairs stockings ; and £163,910 in value of tapes, small wares, &c. The total declared value was £5,748,673 ; whereof the United States took £1,521,981 ; Germany, £883,478 ; Holland, £316,769 ; Belgium, £110,732 ; Russia, £102,733 ; Portugal, £164,251 ; Italy, £203,797 ; Gibraltar and Spain, £152,613 ; India and China ; £532,711 ; Australia, £91,851 ; British America, £515,344 ; Brazil, £329,984 ; Mexico and South American States, £463,070 ; and the remainder in smaller quantities to different places. The above was exclusive of 4,903,291 lbs. yarn, mostly to Germany.

WORMSEED, the unexpanded flowers and calyxes of a species of *Artemisia*. They are imported from the Levant and Barbary, and are used in medicine.

WORMWOOD, a perennial herb (*Artemisia absinthium*), indigenous to Britain, celebrated for its intensely bitter, tonic, and stimulating qualities.

Y.

YARD, the British standard measure of length. [MEASURES.]

YARN (Fr. *Fil*. Ger. *Garn*. It. *Filato*. Por. *Fio*. Rus. *Prasta*. Sp. *Hilo*), simple spun thread. Its quality is expressed in England by numbers, denoting the number of hanks in an avoirdupois pound weight ; reckoning the length of the hank of cotton yarn at 840 yards, or 7 leys of 120 yards each. The hank of worsted yarn is sometimes counted in the same way, but more generally at 560 yards, or 7 leys of 80 yards each. Linen yarn is estimated in England by the number of leys or cuts, each of 300 yards, contained in a pound ; but in Scotland by the number of pounds in a spindle or 48 leys : thus, No. 48 in England is called 1 lb. yarn in Scotland.

YEAST, or **BARM**, a product of the fermentation by which beer is made ; upon the surface of which it swims from involving bubbles of carbonic acid gas. It may be obtained in the form of a firm paste. Mixed with moistened flour it excites the panary fermentation, and is thus used for making bread.

Z.

ZAFFRE, an impure oxide of cobalt, prepared by calcining its ores, and mixing the product with about twice its weight of finely powdered flint. It is used for communicating a blue colour to glass, porcelain, and earthenware ; and, when roasted with potashes, washed, and pulverized, forms **SMALTS**. About 2600 cwts. are annually imported from Norway and Germany.

ZEALAND, NEW, a group of islands lying in the Pacific, 1500 miles S. W. Australia. They are subject to Britain ; and in 1841 were placed under a governor and council.

There are two principal islands, separated by Cook's Strait—New Ulster and New Munster. The latter, and the greater part of the former, are intersected by a mountain-chain, elevated in some parts 14,110 feet ; and there are several subordinate ranges. The country generally is well watered, wooded, and fertile ; and the climate salubrious and temperate, resembling that of France. New Ulster alone—the N. island—has been colonized by the British. Auckland, the capital, advantageously situated on its N. W. side, on the Waitemata, in lat. 36° 51' S., long. 174° 45' E., is rapidly rising into importance, and has a spacious harbour. Russell, towards the N. E. extremity, on the Bay of Islands, and Wellington, on the S. on Cook's Strait, are the other principal stations. Timber and flax are at present the chief products ; but as colonization is progressing rapidly, and the natives evince an aptitude for civilized usages, little doubt can be entertained that these fine islands will become ere long the sites of an extensive commerce.

ZINC, or **SPELTER** (Fr. *Zinc*. Ger. *Zink*. It. *Zinco*. Chin. *Pi-yuen*), a metal of a blueish-white colour and lustre. Sp. gr. 7. At common temperatures it is tough and intractable ; but heated to between 220° and 320° it becomes malleable and ductile ; so that it may be hammered out, rolled into sheets and leaves, and drawn into wire. Being cheap, light, and a metal which, when superficially oxidized, long resists the further action of air and water, it is now employed as a substitute for lead in lining water cisterns and roofing ; alloyed with copper it forms brass ; and several of its compounds are used in medicine. Zinc is obtained either from *calamine*, a native carbonate, or *blende*, a native sulphuret. Both are found in this country, especially in Flintshire and Derbyshire. But British zinc is inferior to that of Germany, from whence, chiefly by way of Prussia and Hamburg, from 100,000 to 170,000 cwts. are annually imported (commonly as ballast in ships bringing wool) ; of which about 80,000 cwts. are entered for home consumption, and the rest is re-exported, mostly to India.

TARIFF OF DUTIES

EXTENDED TO

THE UNITED KINGDOM.

[N.B.—The Rates shown below (except those on Spirits) were increased 5 per cent. by the Act 2 & 4 Vict. c. 17.]

I.—CUSTOMS ON IMPORTS.				Of or from Foreign Countries.		Of and from the United Kingdom.	
				s.	d.	s.	d.
1. Animals (living) and Articles of Food.							
Animals asses and mules each	2	6	1	3			
... goats, kids, ... each	1	0	0	8			
... oxen, bulls, horses each	20	0	10	0			
... cows ... each	15	0	7	6			
... calves ... each	10	0	5	0			
... sheep ... each	3	0	1	6			
... lambs, sucking pigs each	2	0	1	0			
... swine, hogs ... each	5	0	2	8			
... poultry ... per £100	(£5)	£2, 10s.					
Arrow root ... cwt.	5	0	1	0			
Capers, dry comfits ... lb.	0	6	0	3			
Cassava powder ... cwt.	5	0	1	0			
Chicory, roasted or ground lb.	0	6	0	6			
... raw or kiln dried. cwt.	20	0	20	0			
Fish: anchovies ... lb.	0	2	0	0			
... cods ... ship's landing	(£13)	0	0				
... lobsters ...	Free	Free					
... turbot ... cwt.	5	0	0	0			
Fish, foreign, imported in other than fishing vessels.							
... oysters ... bush.	1	6	0	0			
... salmon ... cwt.	10	0	0	0			
... soles, turtle ... cwt.	5	0	0	0			
... fresh, unenumerated ... cwt.	1	0	0	0			
... cured, unenumerated ... cwt.	2	0	0	0			
Fish of British taking. ...	Free	Free					
Fruit, raw, unenum. ... £100	(£5)	(£5)					
... almonds ... cwt.	10	0	10	0			
... Jordan ... cwt.	25	0	25	0			
... bitter ... cwt.	2	0	2	0			
... paste ... £100	(£20)	(£20)					
... apples, raw, ... bush.	0	6	0	2			
... dried ... do.	2	0	2	0			
... cherries, dried ... lb.	0	6	0	6			
... currants ... cwt.	22	2	22	2			
... dates, pistachio nuts cwt.	10	0	10	0			
... figs ... cwt.	15	0	15	0			
... nuts, small, walnuts, and chestnuts ... bush.	2	0	2	0			
... cocoa ... 1000	0	0	1	0			
... nuts, unenum. ... £100	(£20)	(£20)					
... olives ... gal.	2	0	2	0			
... oranges, lemons; in boxes not exceed. 5000 cubic inches ... box	2	6	2	6			
5000 do. to 7300. box	3	9	3	9			
7300 do. to 14,000 box every additional 1000 cubic inches ... box	0	7½	0	7½			
... loose ... 1000	15	0	15	0			
... or entered at value £100	(£75)	(£75)					
... pears, raw, ... bush.	0	6	0	3			
... dried ... bush.	2	0	2	0			
... peel, lemon, &c. ... cwt.	1	0	1	0			
... plums, prunellæ ... cwt.	20	0	20	0			
Fruit; plums, dried ... cwt.	27	6	27	6			
... prunes ... cwt.	7	0	7	0			
... raisins ... cwt.	15	0	7	6			
Grain: barley, pearled. cwt.	8	0	2	6			
... beans ... bush.	0	10	0	8			
... rice, clean, ... cwt.	6	0	0	6			
... rough, in husk. gr.	7	0	0	1			
(See Coar).							
Hay ... load	18	0	8	0			
Honey ... cwt.	10	0	8	0			
Hops ... cwt.	20	0	20	0			
Liquids: ale, beer ... bar.	40	0	40	0			
... spruce ... bar.	20	0	20	0			
... cider, perry ... tun	(£10, 10s.)	(£10, 10s.)					
... spruce essence ... £100	(£10)	(£10)					
... lemon juice, &c. ... gal.	0	0½	0	0½			
... vinegar ... tun	(£10, 10s.)	(£10, 10s.)					
Liquorice roots, paste ... cwt.	20	0	10	0			
... juices ... cwt.	27	6	10	0			
... powder ... cwt.	35	0	15	0			
Macaroni, vermicelli ... lb.	0	1	0	1			
Oil-seed cakes ... ton	1	0	1	0			
Pickles, including vinegars &c. in salt ... gal.	1	6	0	3			
Provisions: bacon, hams cwt.	14	0	3	6			
... beef, pork ... cwt.	8	0	2	0			
... butter ... cwt.	20	0	5	0			
... cheese ... cwt.	10	6	2	6			
... eggs ... 120	0	10	0	2½			
... lard ... cwt.	2	0	0	6			
... puddings, sausages &c. ... lb.	0	3	0	1			
... tongues ... cwt.	10	0	2	6			
... meat, unenum. ... cwt.	2	0	2	0			
Sago and tapioca ... cwt.	1	0	1	0			
Succades, confectionary ... lb.	0	6	0	1			
Vanilloes ... lb.	5	0	5	0			
Vegetables, unenum. ... £100	(£5)	(£5 10s.)					
... lentils ... bush.	0	3	0	1½			
... onions ... bush.	0	6	0	2			
... potatoes ... cwt.	0	2	0	1			
2. Spices.							
Cassia lignea ... lb.	0	2	0	1			
... buds, cinnamon ... lb.	0	6	0	3			
Cloves and pepper ... lb.	0	6	0	6			
Ginger ... cwt.	10	0	2	0			
... preserved ... lb.	0	6	0	1			
Mac ... lb.	2	6	2	6			
Nutmegs ... lb.	3	6	2	6			
... wild, in shell ... lb.	0	3	0	3			
Pimento ... cwt.	5	0	5	0			
3. Seeds.							
Aniseed, coriander, cummin, fenugreek, millet, tares, trefoil, worm, grass ... cwt.	5	0	2	6			
Canary ... bush.	4	0	2	0			
Clover, caraway, carrot, parsnip, quince, tree ... cwt.	10	0	5	0			
Cole ... gr.	0	1	0	1			
Flax, hemp, rape, sesamum gr.	0	1	0	1			

TARIFF OF DUTIES.

	Of or from Foreign Countries.	Of or from British Possessions.		Of or from Foreign Countries.	Of or from British Possessions.
Leak, onion....	cert. 20 0	10 0	Iron, chromate of....	ton 5 0	2 0
Lawson, lupinus....	cert. 5 0	5 0	.... cast, hoops, rods....	ton 30 0	15 0
Mustard....	busk. 1 3	0 6	Latten....	cert. 1 0	0 6
Puppy....	qr. 1 0	0 8	.... wire....	£100 (1.12 lbs.)	1.12 lbs.)
Tarax....	qr. 5 0	2 6	Lead, ore of....	ton 10 0	2 0
Seeds, oil and garden, un-			.... black, pig, sheet....	ton 30 0	5 0
enumerated....	qr. 0 1	0 1	.... red....	ton 30 0	15 0
All others....	£100 (£10)	(£5)	.... white....	ton 45 0	25 0
			.... chromate of....	ton (£5)	30 0
4. Woods.			Litharge....	ton 20 0	10 0
Brazilwood, brazilista, bar-			Manganese ore....	ton 1 0	1 0
wood, cam. logwood, Nic-			Mercury, prepared....	£100 (£10)	(£10)
ragum, red or Guinea wood,			Metal: Bell-metal....	ton 40 0	20 0
myrs, Saunders red....	ton 2 0	2 0	leaf packet of 250 leaves	0 1	0 1
Blackwood lignum vite, Santa			Nickel, ore of....	£100 20 0	20 0
Maria wood, Saunders yellow,			.... refined....	£100 (£10)	(£10)
speckled wood, reba-			Ore not specially charged....	£100 40 0	10 0
wood, sweet wood....	ton 5 0	2 6	Ormeau....	cert. 10 0	10 0
Rox, cedar, ebony, king, olive,			Plate, gold and silver....	£100 (£10)	(£10)
matin, tulip....	ton 10 0	2 6	Together with stamp-duty.		
Mahogany, Amboyna wood,			Platina, and ore of....	£100 10 0	10 0
blackwood, rosewood....	ton 20 0	5 0	Quicksilver....	0 1	0 1
N. B. Mahogany and rose-			Spelter, or zinc, crude....	ton 1 0	1 0
wood from Honduras Bay			.... rolled....	ton 50 0	30 0
and Mosquito shore charged			.... manufactures....	£100 (£10)	(£10)
as colonial.			Steel, unwrought....	£100 (£15)	(£15)
Walnut wood....	ton 4 0	1 0			
5. Timber.			Tin, ore and regulus of....	ton 50 0	10 0
Timber, not being deals, bat-			.... blocks, bars, slabs, cast.	6 0	3 0
tens, boards, staves, hand-			.... foil....	0 0	0 0
spikes, casks, lathwood, or			Manufactures of brass, bronze,		
other sawn or dressed tim-			copper, crystal, iron, steel,		
ber, except hewn, and not			lead, pewter, and tin, not		
otherwise charged....	load 25 0	1 0	otherwise enumerated....	£100 (£15)	(£15)
Deals, battens, boards, or			7. Oils, Extracts, &c.		
other timber sawn or split, &			Aquaforis....	cert. 5 0	5 0
not otherwise charged, load			Chloric acid....	0 2	0 2
Or, in lieu of these duties, the			Essences or extracts not oth-		
importer has the option of			erwise described....	£100 (£10)	(£10)
entering foreign battens,			Or in importer's option....	5 0	5 0
batten-ends, boards, deals,			Nuts, or kernels thereof, not		
deal-ends, and plank by sale,			particularly enumerated,		
according to their length			and commonly used for ex-		
and width....	load 25 0	2 0	pressing oil therefrom....	ton 1 0	0 0
Staves....	load 10 0	0 3	Oil of almonds, and bags....	0 2	0 1
Knees, under 5 in. square....	120 40 0	1 0	annual, uterine....	cert. 1 3	1 3
5 in. and under 8 in....	120 40 0	1 0	castor....	cert. 1 3	1 3
Lathwood, per 100 of 100 cub ft.	40 0	1 0	.... of caraway, lavender,		
Tank....	load 10 0	1 0	mint, peppermint, or spike....	2 0	2 0
6. Ores, Minerals, Metals, and			.... of cloves....	4 0	4 0
Manufactures thereof.			other essential oils....	1 0	1 0
Antimony, ore of....	ton 1 0	1 0	.... cocoa nut....	cert. 1 3	0 7 1/2
.... crude....	cert. 2 0	0 6	.... olive and Paran....	ton 40 0	20 0
.... regulus....	cert. 4 0	1 0	olive, imported in Sicily		
Arctic....	cert. 1 0	0 6	Man ship....	ton 20 0	
Brimstone....	cert. 0 6	0 3	.... palm....	cert. 0 6	0 6
.... in rolls or flowers....	cert. 2 0	1 0	.... rock and walnut....	cert. 6 0	3 0
Bullion....	Free	Free	.... linseed, hemp, rape, and		
Coals....	ton 1 0	0 6	other seed oil....	ton (£6)	20 0
Cobalt ore....	£100 20 0	20 0	train, and bladder....	ton (£6)	1 0
Copper ore, with not above 15			spermaceti....	ton (£15)	1 0
parts of copper....	ton 60 0	20 0	Oil, or spirit of turpentine....	cert. 5 0	2 6
not above 20 parts of iron	ton 20 0	20 0	Oil, unenumerated....	£100 (£20)	(£10)
above 20 do....	ton (£5)	20 0	Orange flower water....	0 1	0 1
Copper, old....	cert. 7 6	3 6	Perfumery, unenumerated....	£100 (£20)	(£20)
.... unwrought....	cert. 8 9	4 0	Water, Cologne, per flask....	1 0	1 0
.... in part wrought....	cert. 10 0	5 0	8. Dye Stuffs, Drugs, &c.		
Copper or brass wire....	£100 (1.12 lbs.)	1.12 lbs.)	Alkali, not being barilla....	cert. 1 0	1 0
Copperas....	ton 20 0	10 0	Aloes....	0 2	0 1
Crystal, rough....	£100 (£5)	(£3 10s)	Akum....	cert. 2 0	2 0
.... beads....	ton 5 0	5 0	Amber, rough....	cert. 5 0	3 0
Gold, leaves of....	ton 3 0	3 0	.... manufactures....	£100 (£15)	(£15)
Iron, ore of....	ton 2 0	0 6	Ambergia....	cert. 0 2	0 2
.... pig, and old iron....	ton 5 0	1 0	Angelica....	cert. 4 0	4 0
.... bars, unwrought....	ton 20 0	2 6	Anatto, annattochia....	cert. 1 0	1 0

TARIFF OF DUTIES.

675

	Of or from Foreign Countries.	Of and from the High Patrimonia.		Of or from Foreign Countries.	Of and from the High Patrimonia.
Argol,	0 6	0 6	Saltpetre, manuf.	0 6	0 6
Ashes: pearl, pot, soap-wood, wood	0 6	Free	Sanguis draconis	4 0	4 0
.. unenumerated. £100	(£5)	Free	Sarsaparilla, senna	0 1	0 1
Asphaltum	1 0	1 0	Scammony	0 6	0 6
Balsam: Canada	0 1	0 1	Smalts	0 2	0 2
.. Copaiba	4 0	4 0	Squills, dried	1 0	1 0
.. Peru	0 3	0 3	.. not dried	0 6	0 6
.. Rags	0 1	0 1	Sumach	1 0	1 0
.. & farther as spirits gall.	22 6	22 6	Tartaric acid	0 1	0 1
Tolu	0 2	0 2	Terra japonica, terra verde ton	5 0	5 0
Balsams unenumerated. lb.	0 6	0 6	Tinca	1 0	0 6
Barilla	5 0	5 0	Turmeric	5 0	0 1
Bark: Peruvian, &c.	1 0	1 0	Turpentine, Venice	0 10	0 10
.. for tanners or dyeracet.	0 3	0 1	Valonia	5 0	5 0
.. extract of, or other ve-			Varnish, unenumerated £100	(£15)	(£15)
.. getable, for tanning	1 0	0 1	Verdegria	0 1	0 1
Berries bay, juniper, yel-			Vermilion	0 3	0 3
.. low	1 0	1 0	Wax, bees, or myrtle	3 0	1 0
.. unenumerated, used in			.. bees, anywise bleached	20 0	10 0
.. chemical processes	1 0	1 0	.. sealing	(£15)	(£15)
Boracic acid	0 6	0 6	Zaffre	1 0	1 0
Borax, refined	5 0	5 0			
Canphor	1 0	1 0	9. Skins and Furs.		
.. refined	10 0	10 0	Beaver, undressed	0 8	0 2
Camomile, canella alba	0 1	0 1	Goat, undressed	0 3	0 2
Cantharides, China root	0 3	0 3	.. any way dressed 12 skins	8 0	2 8
Cardamoms	0 2	0 2	Kid or lamb, undressed 100 do.	0 4	0 2
Caoutchouc	1 0	1 0	.. dressed	8 0	2 8
Cassia fistula	5 0	5 0	.. do. and coloured	10 0	5 0
.. buds	0 6	0 3	Lamb dressed in oil	40 0	20 0
Castor	2 0	2 0	Musquash, butria, un-		
Civet	2 0	2 0	.. dressed	1 0	0 8
Coculus Indicus	7 8	7 6	Seal, in the hair	0 4	0 4
Cochineal, granilla, & dust	1 0	1 0	.. of British taking from		
Cubebs, colocynth, pink lb.	0 1	0 1	.. fishery or colony 12 skins	0 0	0 1
Cubalt, cutch, divi divi ton	5 0	5 0	Sheep undressed in the wool	0 6	0 3
Drugs, unenumerated	1 0	1 0	.. tanned or tawed	12 0	8 0
Eustic	2 0	1 0	.. dressed in oil	20 0	10 0
Gelatin	10 0	10 0	Skins and furs, or pieces, un-		
Galls, gamboge	1 0	1 0	.. dressed, and unenum. £100	(£5)	30 0
Gentian, ginseng	5 0	5 0	.. any way dressed. £100	(£10)	(£5)
Glue	3 0	3 0	Manufactures thereof	(£20)	(£10)
.. clippings	20 0	20 0			
Grains, guinea, & paradisa	15 0	15 0	10. Hides.		
Gums of all kinds	1 0	1 0	Horse, ox, buffalo, calf, hog,		
Indigo	2 0	1 0	.. sea-cow, dry	0 6	0 8
Isinglass	47 6	5 0	.. wet	0 3	0 1
Jalap, manna	0 1	0 1	.. whether whole, or in		
Lac, namely, sticklac	0 1	0 1	.. pieces, not cut in shapes,		
Leeches	(£5)	(£5)	.. tanned but not dressed lb.	0 2	0 1
Moss-lichen, rock	5 0	5 0	.. in any way dressed, but		
Madder	0 6	0 6	.. not varnished, japanned, or		
.. root	0 3	0 3	.. enamelled	0 4	0 2
Morphia and its salts	5 0	5 0	.. if varnished, &c.	0 6	0 2
Musk	0 6	0 6	Loah hides, russia hides or		
Myrrh	1 0	1 0	.. pieces, any way dressed	0 4	0 2
Nitrates of soda & potash	0 6	0 6	Hides or pieces, undressed,		
Nux vomica, orris root	5 0	5 0	.. unenumerated	(£5)	20 0
Ochre	0 6	0 6	.. any way dressed do. £100	(£10)	(£5)
Opium	1 0	1 0			
Olibanum, orchil, orpi-			11. Leather Manufactures.		
.. ment	1 0	1 0	Women's boots	12 0	12 0
Paints, unenumerated:			.. furred or trimmed	15 0	15 0
.. manufactured	(£10)	(£10)	Women's shoes, with cork or		
.. unmanufactured £100	20 0	20 0	.. double soles, quilted shoes		
Pitch, Burgundy	2 0	2 0	.. and clogs	10 0	10 0
Quassia	10 0	10 0	.. if furred or trimmed do.	12 0	12 0
Quinine, sulphate of	0 6	0 6	.. of silk, jean, or other		
Radix rhatania, snake lb.	0 1	0 1	.. stuff, kid, or other leather do.	9 0	9 0
.. ipocatanha	1 0	1 0	Women's shoes, if furred or		
.. serpentaria	0 3	0 2	.. trimmed	10 0	10 0
Rhubarb	0 3	0 3	Girls' boots, shoes, and		
Saffron	1 0	1 0	.. calashes, not exceeding 7		
Sel: ammoniac, limonium,			.. in. in length, charged 3d		
.. prunella, and salap	1 0	1 0	Men's boots	25 0	25 0
			.. shoes	24 0	14 0

	Of or from Foreign Countries.		Of and from British Possessions.			Of or from Foreign Countries.		Of and from British Possessions.	
	s.	d.	s.	d.		s.	d.	s.	d.
Boys' boots and shoes, not exceeding 7 in. in length, charged ½d duties.					13. Glass, Earthenware, &c.				
Boot frocks, not exceeding 9 in. in height . . . 12 pairs	3	6	3	6	Beads and bugles of glass. lb.	0	3	0	3
... exceeding 9 inches. do.	5	6	5	6	Bottles, earth or stone, empty 12	0	2	0	2
Leather, shaped or manufactured, or any article whereof leather is the most valuable part, not otherwise enumerated . . . £100	(£15)		(£15)		Bottles, glass (not flint or cut) wickered, or of green or common glass. . . cart.	4	0	4	0
Gloves: habit mitre. 12 pairs	2	4	2	4	And further for excise. . . cart.	7	0	7	0
... habit gloves & men's do.	3	6	3	6	... glass, unenumerated. ret.	30	0	30	0
... women's or mitre. do.	4	6	4	6	And for excise duty. . . cart.	30	0	30	0
Parchment. . . . 12 sheets	6	0	6	0	China plain. . . . £100	(£15)		(£15)	
Vellum. skin	1	0	1	0	... ornamented . . . £100	(£20)		(£20)	
12. Cotton, Hair, Linen, Wool, and Manufactures thereof.					Earthenware, unenum. . £100	(£10)		(£10)	
Bandstring twist, the 12 knots each of 32 yards. . . .	5	0	2	6	Enamel lb.	2	0	2	0
Candlewick cart.	8	8	4	4	Glass crown or window, not ex. ¼th inch thick. . . . cart.	30	0	30	0
Cotton manufactures. £100	(£10)		(£5)		And for excise. cart.	(£5, 2s.)		(£5, 2s.)	
... articles any way made up, unenumerated. . . £100	(£20)		(£10)		... flint and cut. . . . £100	(£20)		(£20)	
Flax, tow, or cordilla. . . cart.	0	1	0	1	And for excise. cart.	30	0	30	0
Gauze, of thread. . . £100	(£15)		(£7, 10s.)		... German sheet, not ex. ¼th inch thick. cart.	30	0	30	0
Hair, camels, & hares' wool lb.	0	1	Free.		And for excise. cart.	34	0	34	0
... ox, horse, elk. . . . cart.	0	6	0	3	... all glass ex. ¼th inch thick, all silvered or polished glass, and plate-glass: not containing above 9 sq. feet sq. feet	4	0	4	0
... unenumerated. £100	(£4)		50	0	From 9 to 14 do. . . . sq. feet	5	0	5	0
... manufactures of hair or goats' wool, alone, or mixed with other material; and such articles made up, not otherwise charged. . . £100	(£15)		(£7, 10s.)		From 14 to 35 do. . . . sq. feet	6	0	6	0
Indie, unwrought. . . . lb.	0	8	0	8	Above 35 square feet sq. feet	7	0	7	0
... wrought lb.	1	0	0	6	... manufactures unenumerated, and old broken glass. cart.	30	0	30	0
Linen, or linen and cotton:					And for excise. cart.	30	0	30	0
Cambrics and French lawns, the piece, not ex. 8 yards in length and ½th broad					Paintings on glass. . . £100	(£5)		(£5)	
... plain; also bordered handkerchiefs. . . . piece	5	0	5	0	And for excise. . . . sq. feet	4	0	4	0
... any other lawns. £100	(£15)		(£15)		14. Silks, &c.				
... lace thread, and pillow lace of linen, cotton, or silk. . . . £100	(£15, 10s.)		(£15, 10s.)		Silk: knubs, husks, and waste cart.	1	0	0	6
... damask. . . . sq. yd.	0	10	0	10	raw lb.	0	1	0	1
... damask diaper. . . sq. yd.	0	5	0	5	... thrown, undyed: viz., singles, tram, organdie, and crape silk . . . lb.	1	0	0	6
... plain linen and diaper, & silks, unenumerated £100	(£15)		(£15)		... do., dyed, do. . . . lb.	2	0	1	0
... silks in use by a British vessel, and not otherwise disposed of. . . .	Free		Free		manufactures, or of silk mixed with other material, the produce of Europe, viz.: plain silk or satin . . lb.	11	0		
... silks if and when otherwise disposed of. . . £100	(£15)		(£15)		or at option of Customs. £100	(£20)			
... manufactures, or of linen mixed with cotton or wool, unenumerated. £100	(£15)		(£15)		*figured or brocaded silk. lb.	15	0		
Thread unenumerated £100	(£10)		(£5)		*plain gauze lb.	17	0		
Wool: alpacas and llamas. cart.	2	6	2	6	*gauze striped, figured, or brocaded lb.	37	6		
... beaver. lb.	0	6	0	3	*plain crape lb.	14	0		
... cut and combed. . . lb.	1	0	0	6	*figured crape lb.	18	0		
... cone. lb.	0	1	0	1	*plain velvet lb.	22	0		
... cotton, or waste. . . cart.	2	11	0	4	*figured velvet lb.	37	6		
... goats or hair. . . . cart.	2	6	Free		*ribbons embossed or figured with velvet. lb.	17	0		
... sheep or lambs, under 1s. per lb. value. . . lb.	0	0	Free.		*or in Customs' option £100	(£20)			
... in value 1s. per lb. or upwards lb.	0	1	Free.		and further, if mixed with gold, silver, or other metal, when the duty is not charged ad valorem. lb.	10	0		
Woolen manufactures (not of goats' wool, or of wool mixed with cotton, and not otherwise charged. £100	(£15)		(£5)		... fancy net or tricot. . lb.	34	0		
... do. do., articles any way made up. . . . £100	(£20)		(£10)		... tulle sq. yard	1	4		
					... manufactures, or of silk mixed with other materials, unenumerated . . £100	(£20)		(£5)	
					... millinery, or of which the greater part is silk, viz., turbans or caps. . . . each	15	0	15	0
					hats or bonnets. . . . each	25	0	25	0
					drum. each	30	0	30	0
					or, in Customs' option £100	(£40)		(£40)	

TARIFF OF DUTIES.

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	If not from Foreign Countries.		If not from British Possessions.			If not from Foreign Countries.		If not from British Possessions.	
	s.	d.	s.	d.		s.	d.	s.	d.
Silk manufactures, or of silk and any other material, wholly or partly made up, not otherwise charged £100	(£30)		(£30)		the conditions of 4 Viet. c. 8, have been fulfilled, <i>gall.</i>	..		9	0
Bulkworm gut £100	(£30)		(£30)		Sugar the produce of and imported from any Brit. Poss. within the limits of E. I. Co.'s Charter into which the importation of foreign sugar is prohibited <i>cwt.</i>	63	0	24	0
15. <i>Naval Stores.</i>					do do. from any other B.P. within those limits <i>cwt.</i>	..		38	0
Hast ropes, twines, &c. <i>cwt.</i>	5	0	2	6	Wine <i>gall.</i>	5	6	2	8
Cables (not iron), cordage, &c. <i>cwt.</i>	6	0	3	0	19. <i>Miscellaneous.</i>				
.... do. in use of Brit. ship, and until otherwise disposed of	Free		Free		Agates or carnelians <i>£100</i>	(£5)		(£5)	
when otherwise disposed of <i>£100</i>	(£10)		(£5)		set <i>£100</i>	(£15)		(£15)	
Cordage, do. <i>£100</i>	(£5)		(£10)		Barbadoes tar <i>cwt.</i>	2	6	2	6
Cut rope, twine, &c. <i>cwt.</i>	2	0	1	3	Basket rods, peeled, the bundle not ex. 3 feet in circumference	0	6	0	6
Hemp, dressed <i>cwt.</i>	4	0	2	0	..... unpeeled, do	0	3	0	3
or other similar material, undressed <i>cwt.</i>	0	1	0	1	Baskets <i>£100</i>	(£10)		(£10)	
Pitch <i>cwt.</i>	0	6	0	1	Beads <i>£100</i>	(£15)		(£15)	
Resin <i>cwt.</i>	2	0	1	0	Books print. before 1801 <i>cwt.</i>	20	0	20	0
Ships to be broken up, with tackle, &c. (except sails) viz. foreign ships <i>£100</i>	(£25)		(£25)		do. in or since 1801 <i>cwt.</i>	(£5)		(£5)	
do. broken up <i>£100</i>	(£10)		(£10)		do. do. in foreign living languages <i>cwt.</i>	50	0	50	0
British, or vessels entitled to registry as such.	..		Free		Bones, animal, burnt or not <i>ton</i>	0	8	0	8
For the last 11 1/2 barrels, each not exceeding 3 1/2 gallons	2	6	0	6	Boxes without glass. <i>£100</i>	(£10)		(£10)	
Turpentine, value not above 9s. per <i>cwt.</i>	0	1	0	1	Brushes rough <i>cwt.</i>	2	6	2	6
from 9s. to 15s. do. <i>cwt.</i>	1	0	0	3	..... any way sorted <i>lb.</i>	0	3	0	3
above 15s. do. <i>cwt.</i>	5	0	2	6	Candles spermaceti. <i>lb.</i>	0	6	0	6
Twine <i>cwt.</i>	10	0	5	0	..... tallow <i>cwt.</i>	10	0	10	0
Yarn, cable yarn <i>cwt.</i>	6	0	3	0	..... wax <i>lb.</i>	0	4	0	4
16. <i>Stones, Bricks, Tiles.</i>					Canes: bamboo <i>1000</i>	0	6	0	6
Bricks (Dutch) <i>1000</i>	10	0	5	0	..... or sticks, unenum. <i>1000</i>	5	0	5	0
other sorts <i>1000</i>	15	0	7	6	..... mounted. <i>£100</i>	(£20)		(£20)	
Chalk, unmanufactured <i>£100</i>	(£5)		(£10)		Carriages <i>£100</i>	(£20)		(£20)	
manufactured, not otherwise charged <i>£100</i>	(£10)		(£5)		Casks, empty <i>£100</i>	(£25)		(£25)	
Gypsum <i>ton</i>	31	8	1	3	Catlings 12 doz. <i>knots</i>	3	0	3	0
Plaster of Paris <i>ton</i>	20	0	30	0	Clocks <i>£100</i>	(£20)		(£20)	
Stone in lumps, unhewn, rough marble, limestone, flint, stones for potters, pebble, stone for lithography	Free		Free		Cork (after July 5 1823) <i>ton</i>	1	0	1	0
Stone in blocks, shaped, or rough scalped <i>ton</i>	2	0	0	6	Cork, ready made (do) <i>lb.</i>	0	8	0	8
Stone and slate, hewn <i>ton</i>	10	0	1	0	..... squared for rounding <i>cwt.</i>	16	0	16	0
Marble, manufactured <i>cwt.</i>	3	0	1	6	fishermen's <i>cwt.</i>	2	0	2	0
Tiles <i>£100</i>	(£10)		(£5)		Coral in fragments <i>lb.</i>	0	2	0	1
17. <i>Coffee, Cocoa, Tea, Tobacco.</i>					whole, polished <i>lb.</i>	12	0	0	6
Coffee <i>lb.</i>	0	8	0	4	unpolished <i>lb.</i>	5	6	0	8
Cocoa <i>lb.</i>	0	4	0	1	Crayons <i>£100</i>	(£15)		(£15)	
..... husks and shells <i>lb.</i>	0	1	0	0	Diamonds <i>Free</i>	Free		Free	
..... paste, chocolate <i>lb.</i>	0	6	0	2	Down <i>lb.</i>	1	3	0	7
Tea <i>lb.</i>	2	1	2	1	Feathers, bed <i>cwt.</i>	20	0	10	0
Tobacco, unmanufactured <i>lb.</i>	3	0	3	0	..... ostrich, dressed <i>lb.</i>	30	0	30	0
..... snuff <i>lb.</i>	6	0	6	0	..... undressed <i>lb.</i>	0	1	0	1
..... manufactured or cigars <i>lb.</i>	9	0	9	0	..... unenum. dressed <i>£100</i>	(£10)		(£10)	
..... stalks and flour of, prohibited	..		..		..... undressed <i>£100</i>	(£5)		(£5)	
18. <i>Spirits, Sugar, and Wine.</i>					..... paddy bird <i>lb.</i>	1	0	1	0
Spirits: per gallon of proof strength by Hykes' hydrometer, and proportionally for greater or less strength.	22	6	9	0	Flowers, artificial, not silk <i>£100</i>	(£25)		(£25)	
Rum: the produce of any British possession within the limits of the E. I. Co.'s Charter, in regard to which	..		..		Grease <i>cwt.</i>	1	8	0	3
					Gunpowder <i>cwt.</i>	20	0	20	0
					Guano <i>ton</i>	1	0	1	0
					Hats or bonnets. chip <i>lb.</i>	5	0	5	0
					..... bast, cane, or horse-hair, each not ex. 22 inches diameter. <i>12</i>	10	0	10	0
					..... ex. 22 inches. <i>12</i>	12	0	12	0
					..... straw. <i>lb.</i>	8	6	8	6
					..... felt, hair, wool, or beaver. <i>each</i>	2	6	2	6
					..... silk, or silk shag on felt or other material. <i>each</i>	3	6	3	6
					Horns, tips, or pieces <i>ton</i>	1	0	1	0
					Japaned ware <i>£100</i>	(£15)		(£15)	
					Jet <i>lb.</i>	0	1	0	1

		From Foreign Countries.		From British Possessions.	
		£	s. d.	£	s. d.
Jewels (except diamonds and pearls), unset £100 10 0 10 0					
do., set		£100	(£10)	(£10)	
Ink for printers		cart.	10 0	10 0	
Lamp black		cart.	20 0	20 0	
Maps or charts		each	0 1	0 1	
Mats matting		£100	(£5)	(£2, 10s.)	
Mattresses		£100	(£10)	(£10)	
Mother-of-pearl		£100	(£5)	(£5)	
Musical instruments		£100	(£15)	(£15)	
Mustard flour		cart.	12 0	12 0	
Paper, brown		sq. yd.	0 3	0 3	
do., hangings		sq. yd.	1 0	1 0	
do., waste		sq. yd.	0 4	0 4	
do., printed in English (prohibited)					
Pasteboards		cart.	30 0	30 0	
Pencils, pen-knives, pencils		£100	(£15)	(£15)	
Pictures		each	1 0	1 0	
And further		sq. foot	1 0	1 0	
Above 200 sq. feet		each	(£10)	(£10)	
Plants and trees, alive			Free	Free	
Plaiting for hat-making, best, cane, or horse-hair		sq.	10 0	10 0	
do., chip		sq.	2 6	2 6	
do., straw		sq.	7 6	7 6	
Prints or drawings, single		each	0 1	0 1	
do., sewn		100	0 3	0 3	
Quills, goose		1000	0 6	0 6	
do., swan		1000	3 0	1 6	
Rags		ton	0 6	0 6	
do., pulp		ton	5 0	5 0	
Salt			Free	Free	
Soap, hard		cart.	30 0	30 0	
do., soft		cart.	30 0	15 0	
do., Naples		cart.	55 0	55 0	
Spermaceti, fine		£100	(£25)	(£25)	
Sponge		lb.	0 6	0 1	
Starch		cart.	10 0	5 0	
do., gum, or British gum		cart.	15 0	15 0	
Straw for plaiting		cart.	0 1	0 1	
Tallow		cart.	3 2	0 3	
Teeth, elephants, &c.		cart.	1 0	1 0	
Tobacco pipes, clay		£100	(£15)	(£15)	
Tortoise shell		lb.	1 0	0 1	
Toys (except mirrors)		£100	(£10)	(£10)	
Turnery, unenumerated		£100	(£15)	(£15)	
Wafers		lb.	0 3	0 3	
Washing balls		lb.	0 6	0 6	
Watches		£100	(£10)	(£10)	
Whale fins, British taking		ton	20 0	20 0	
do., otherwise taken		£100	(£20)	(£20)	
Goods, any way manufactured, unenumerated, and not prohibited		£100	(£20)	(£20)	
Do., not in any way manufactured, do. do. do.			(£5)	(£5)	

II. CUSTOMS ON EXPORTS.

The Produce of the United Kingdom.

Coal in a foreign ship	ton	4	0
do. in a British ship, viz. not small coal	ton	2	0
Small coal, i. e. coal screened through a riddle with bars not more than 1/2 inch asunder, and culm	ton	1	0
Clay and china stone	cart.	0	3
Cement, stone and flint (except ballast)	cart.	0	6
Wools and skins	cart.	1	0

III. INLAND EXCISE DUTIES.

Bricks, every 1000, of a size not exceeding 150 cubic inches	10	0
Every 1000 exceeding do.	10	0
Glass, bottle	cart.	7 0
do., broad, crown, and German sheet	cart.	73 6
do., plate, for material employed in making it	cart.	60 0
do., flint, charged in fused material	100 lbs.	6 8
Hops	lb.	11 2
Malt from barley	bus.	2 7
do., bear or bugg in Scotland and Ireland, do.	do.	2 6
Paper or pasteboard	do.	0 1 1/2
[See Article PAPER.]		
Soap, hard	do.	0 1 1/2
do., soft	do.	0 1
Spirits in England	gall.	7 10
Scotland & Ireland	gall.	3 0
Vinegar	gall.	0 2

N. B.—Bricks, hops, soap, and spirits are subjected, on importation from Ireland to Britain, to countervailing duties equivalent to the excise duties levied in Britain, or their excess above those of Ireland.

IV. CUSTOMS & EXCISE DRAWBACKS ON EXPORTATION.

Beer brewed in United Kingdom	barrel	5 0
Glass, bottle	cart.	7 0
do., broad, German sheet, and crown, in shades, tables, 1/2 tables, or 1 table	cart.	73 6
do., broad, in panes cut into rectangular figures not less than 6 inches by 4 inches	cart.	35 0
do., German sheet, in panes, do.	cart.	60 0
do., crown, in panes, do. do., such panes not containing any portion of the bullion or thick centre of the tables from which they have been cut	cart.	30 0
do., plate	sq. foot	2 0
do., flint	100 lbs.	18 0

Plate. [See Article PLATE.]

N. B.—The other excise drawbacks consist simply of the duties paid.

Rice, cleaned in U. K.; a drawback per cwt. equal to duty on 4 bushels rough rice or paddy.

Sugar, refined in loaf, complete and whole or lumps duly refined having been perfectly clarified and thoroughly dried in the stove, and being of a uniform whiteness throughout, or such sugar powdered, crushed, or broken, also for sugar candy —if exported in a British ship cart. | 30 0 || do. in a foreign ship | cart. | 20 0 |
| And for every cwt. of double refined, or of sugar equal in quality thereto, an additional sum of | | 5 0 |
| Tobacco, manufactured in U. K., at or within 2 miles of any port into which tobacco may be imported, made into shag, roll, or carrot, upon shipment thereof as stores, or for exportation | lb. | 2 0 |

vines of Tehu-ling, lies to lat. 30° 10' N., long. 109° 30' E., about 100 miles S. from Shung-hai, from which it is separated by a bay, having at its upper end the well known island of Che-ma. The city is situated about 14 miles up the river Ya-tsu, at the mouth of which contiguous to Chin-hai, there is anchorage for shipping of any size. A little to the N. lies Che-poo, the principal seat of the trade with Japan.

Fou-tchen, the capital of the province of Fo-hien, lies on the Min-hing, a river navigable for the largest ships to within 10 miles of the town, and which, running through the centre of the principal tea district, will enable produce to be brought to Fou-tchen at a much cheaper rate than overland to Canton.

Amoy situated to lat. 24° 30' N., long. 110° 10' E. on a barren part of the coast of Fo-hien, but it is theemporium of the trade with the large island of Formosa, the gateway of the E. coast of China, from which it is distant only 120 miles. Amoy is besides, next to Canton, the chief seat of the foreign commerce of the empire, being the residence of numerous wealthy merchants who trade with Singapore, Batak, Manila, the Eastern Islands, and Japan.

Quotas described in the body of the work.

COAL H. (ARTICLE). The act 3 & 4 Vict. c. 70, substitutes for the duties on stage carriages contained on page 139, the following:—namely, for every original horse to be taken out, for each carriage yearly, £3. 3s., for every supplementary license for the extra carriage, 3s., and in respect of every mile which any stage carriage shall be licensed to travel 1d. And for passengers conveyed by railway 6 per cent.

No stage-coach to carry more passengers than it is constructed for, each being allowed 16 inches measured off on the front of the seat. Children under 5 years of age to be free, not to be counted. The number of passengers which the coach is licensed for (distinguishing outside from inside) to be painted on the back and on the inside of each compartment. Limitation of proportion of outside to the whole number of passengers in coaches more than 6 feet 4 inches high and with a space less than 4 feet 6 inches between the back of the wheels viz. where 5 passengers, 3 outside where 12, 8 ditto, where 18 11 ditto where 18 11 ditto. Thereafter, 2 outside for every 1 additional passenger.

The 3 & 4 Vict. c. 70 alters the duties on carriages for hire to 1s. for each carriage.

(1841) F. F. The absurd arrangement of the coffee duties published out on page 168 has been remedied in the new tariff.

CULN. 15 per centation, June 7 1842, the overage of 2 dwts. 24 grains, and the half overage of 2 dwts. 14 grains are allowed currency.

COLONY. Several of the statutory regulations enacted under this head have been altered by the act 3 & 4 Vict. c. 47, passed July 16, 1842, of which the following is an abstract:—

§ 1. A 1 to take effect in the colonies in B. America and the West Indies, in an 3th April, and in British N. America and Mauritius, from 3th July 1842 except as after provided.

§ 2. Repeals the whole table of duties there in a note on page 177.

§ 3. Repeals the Table of Prohibitions and Restrictions on page 176.

§ 4. Enacts in its stead the following table, applicable to importations into the British possessions in America or Mauritius:—

New Table of Prohibitions and Restrictions.

Quarantine arrangements, arms or articles of war prohibited except from the United Kingdom, or from some other British Possession.

Coffee sugar, not being refined, in bond to the U. K., molasses, rum, being the produce of any

B. P. within the limits of the U. K. or elsewhere, except as after provided, or being of foreign produce prohibited to be imported into any of the B. P. in B. America, or West Indies (the Bahamas and Bermuda not included), or into Mauritius, except to be consumed for exportation only, and may also be prohibited to be imported into the Bahamas or Bermuda.

Produce of the West Indies and Bermuda, such as are prohibited to be imported into the U. K.

All goods imported contrary thereto, forfeited, also the vessel if of less burden than 7 tons.

§ 5. That it shall be lawful to import into any B. P. in the W. Indies and B. America, and into Mauritius, coffee the produce of any B. P. within the limits of the U. K. or elsewhere, and may regulate the produce of any B. P. within such limits, in which the importation of sugar the produce of any foreign country or of any B. P. in which foreign sugar may be lawfully imported, has been prohibited, and also from the U. K. or elsewhere, in which the importation of any B. P. into which foreign sugar or rum may be lawfully imported has been prohibited. Provided that no such foreign sugar or rum shall be entered into any B. P. in the W. Indies or B. America, or Mauritius, as being the produce of any B. P. within the limits of the U. K. or elsewhere, from which the same may be lawfully imported, under the proviso last aforesaid, unless the master of the ship importing the same shall have delivered at the customs of the port of importation a certificate of origin and make docket to that effect in the form prescribed.

§ 6. Repeals table of duties on page 176 (7).

§ 7. The following duties to be exacted upon goods and the produce thereof the U. K. or of any B. P. in B. America or Mauritius, of any B. P. within the limits of the U. K. or elsewhere, or the produce of any of the British Colonies imported or brought into any of the B. P. in America or the Mauritius, by sea or inland carriage.

New Table of Duties.

	Duty of 100 lbs.	50 lbs.
Wheat flour	0 0	0 0
Fish of foreign taking or curing	0 0	0 0
Ditto, pickled	0 0	0 0
Meat, salted or cured	0 0	0 0
Butter	0 0	0 0
Coffee and cheese	0 0	0 0
Clams	0 0	0 0
Molasses	0 0	0 0
Tea, unless imported from China, the U. K. or a B. P.	0 1	0 1
Spirits, Rum	0 6	0 6
Other spirits and cordials	1 0	1 0
Rum, unrefined	0 0	0 0
Refined sugar, the produce of and refined in foreign countries	0 0	0 0
Gins and oils, and spermaceti, 15 per centum.		
Wine, whether bottled or not, cotton, linen, woollen, leather and paper manufactures, hardware, clocks and watches manufactured between 1840 and 1841 other than spermaceti, each cordage and oakum 7 per centum.		
Oil, hubber, wax, and tallow, of foreign taking, 15 per centum.		
Articles not enumerated, except such as are comprised or referred to in the foregoing table of exceptions, 6 per centum.		
And if any of the goods herein before proposed to be charged with duty except sugar and tea, shall be imported through the U. K. (having been exported from the warehouse of the duties drawn back) such goods shall only be charged with 1/10 of the above duties.		

Exemptions.—Coin, bullion, and diamonds.

horses, cattle, and all other live-stock, hay and straw; tallow and raw hides, salt, rice, corn and grain unground; biscuit or bread, meal or flour, except wheat flour; fresh meat and fish, fruit and vegetables, carriages of travellers, wood and lumber, cotton wool, hemp, flax, and tow, drugs, gums, and resins, tortoise-shell, manures of all kinds, berrings taken and cured by the inhabitants of the Isle of Man, and imported from thence, provisions and stores for the use of her Majesty's forces, all goods imported from the U. K. after having there paid the duties of consumption, and imported from thence without drawback.

§ 8. The following articles (namely), salted or cured meat, flour, butter, cheese, molasses, cork wood, cordage, oakum, pitch, tar, turpentine, leather and leather-ware, fishermen's clothing and livery, fishing-craft, utensils, instruments, and bait, shall be also exempt from duty if imported for the use of the British fisheries in America, into any place at or from whence any such fishery is carried on.

§ 9. There shall be levied a duty of 10 per centum of *valorem* upon sugar refined in bond in the U. K., not being of the growth of any of the B. P. in America, or of Mauritius, or of any B. P. within the limits of the E. I. Co.'s charter, imported or brought into any of the B. P. in America, or into Mauritius.

§ 10. If any colonial duty is higher on British goods than on similar foreign goods, the imperial duty imposed by this act on such foreign articles shall be increased by such excess.

§ 11. Grants power to her Majesty, by order in council, to add any article chargeable under this act as an unenumerated article with a duty of 4 per centum of *valorem*, to the list of exemptions herein-before set forth.

§ 12. The duties shall be levied under the re-

gulations of the former act, except in so far as the same are repealed or altered by this act.

§ 13. Duties to be payable in sterling money, or in foreign coins, at rates proclaimed to be equivalent thereto, and according to the imperial system of measures.

§ 14. Application of the produce of these duties.

§ 15. Goods from the Channel Islands to be admitted as goods of the U. K.

§ 16. Legalises certain past irregularities in the mode of levying the duties.

§ 17. In any B. P. in America in which the imperial duties imposed by the former act (3 & 4 Wm. IV. c. 20), and the colonial duties imposed by the laws of such possession, have both been customarily levied in full without making any deduction from the imperial duties in respect of the colonial duties (as provided for by § 11 of said act) or from the colonial duties in respect of the imperial duties, it shall be lawful to continue so to levy in full such imperial and colonial duties respectively during the continuance of the said former act.

The existing differential duties in Britain in favour of the colonies are shown in the Tariff.

CORN. On 29th April 1842 a new act (5 & 6 Vict. c. 14) was passed for regulating the importation of corn, which, though still retaining the principle of the variable scale of duties, reduces the rates to be levied. In other respects, the provisions of this act are nearly the same as those in the old, 9 Geo. IV. c. 60 (*vide* pp. 248, 249); differing chiefly in the addition made by the new act to the number of towns furnishing the returns of the prices of British corn, from which the average prices for regulating the duty are ascertained, and in its devolving (except in London, Oxford and Cambridge) the duty of inspecting those returns upon the officers of excise.

The following is the new Table of Duties:—

IMPORTED FROM ANY FOREIGN COUNTRY.

Wheat.				Wheat Flour.				Rye, Pear, Beans.				Barley, Maize, Buckwheat.				Oats.				Oatmeal.			
Average Price per Quarter.		Duty per Cwt.		Duty per Cwt.		Duty per Cwt.		Average Price per Quarter.		Duty per Cwt.		Average Price per Quarter.		Duty per Cwt.		Average Price per Quarter.		Duty per Cwt.		Average Price per Quarter.		Duty per Cwt.	
a.	d.	s.	d.	a.	d.	s.	d.	a.	d.	s.	d.	a.	d.	s.	d.	a.	d.	s.	d.	a.	d.	s.	d.
under 54	20	0	0	5	10	0	12	under 30	11	0	0	under 26	11	0	0	under 19	8	0	0	4	11	29	0
51	52	19	0	6	0	0	11	31	33	10	0	26	27	10	0	19	20	7	0	4	3	10	0
52	55	18	0	6	2	0	10	32	34	9	0	27	30	9	0	20	23	6	0	3	8	28	0
53	56	17	0	5	10	0	10	33	35	8	0	28	31	8	0	21	24	5	0	3	1	3	0
54	57	16	0	5	8	0	9	34	36	7	0	29	32	7	0	22	25	4	0	2	8	27	0
55	58	15	0	5	6	0	9	35	37	6	0	30	33	6	0	23	26	3	0	1	10	26	0
56	59	14	0	4	10	0	8	36	38	5	0	31	34	5	0	24	27	2	0	1	8	25	0
57	60	13	0	4	8	0	7	37	39	4	0	32	35	4	0	25	28	1	0	0	7	24	0
58	61	12	0	4	6	0	7	38	40	3	0	33	36	3	0	26	29	0	0	0	6	23	0
59	62	11	0	3	10	0	6	39	41	2	0	34	37	2	0	27	30	0	0	0	5	22	0
60	63	10	0	3	8	0	6	40	42	1	0	35	38	1	0	28	31	0	0	0	4	21	0
61	64	9	0	3	6	0	5	41	43	0	0	36	39	0	0	29	32	0	0	0	3	20	0
62	65	8	0	2	10	0	4	42	44	0	0	37	40	0	0	30	33	0	0	0	2	19	0
63	66	7	0	2	8	0	4	43	45	0	0	38	41	0	0	31	34	0	0	0	1	18	0
64	67	6	0	2	6	0	3	44	46	0	0	39	42	0	0	32	35	0	0	0	0	17	0
65	68	5	0	1	10	0	3	45	47	0	0	40	43	0	0	33	36	0	0	0	0	16	0
66	69	4	0	1	8	0	2	46	48	0	0	41	44	0	0	34	37	0	0	0	0	15	0
67	70	3	0	1	6	0	2	47	49	0	0	42	45	0	0	35	38	0	0	0	0	14	0
68	71	2	0	1	4	0	1	48	50	0	0	43	46	0	0	36	39	0	0	0	0	13	0
69	72	1	0	0	10	0	1	49	51	0	0	44	47	0	0	37	40	0	0	0	0	12	0
70	73	0	0	0	8	0	0	50	52	0	0	45	48	0	0	38	41	0	0	0	0	11	0
71	74	0	0	0	6	0	0	51	53	0	0	46	49	0	0	39	42	0	0	0	0	10	0
72	75	0	0	0	4	0	0	52	54	0	0	47	50	0	0	40	43	0	0	0	0	9	0
73 & up.	1	0	0	0	2	0	0	53	55	0	0	48	51	0	0	41	44	0	0	0	0	8	0

* The fractions under barrel of flour are 35 parts of a penny; under oatmeal, 121 parts.

8 X

[illegible]

Subject of Bureau of Finance - Finance and Administration
By the S & C - page 40 & 41
10, 1968, where it was stated - August 31,
1968, to be delivered from the warehouse of the
United States Army, upon a pre-arranged mobilization
of an equivalent quantity of stock at interest in
the warehouse.

1. The proportions are 64 cases of Prof. of Min.-det. trust, or every 10th line of trust is 64 Min.-det. 70 line. The whole trust is 64 line. of capital's trust, 64 line. of the standard trust applied to the envy, or 114 the response which

§ 2. Certificate of the department to be given to last 6 weeks, and another copy sent of unexpired value during that time.

§ 2. The defendant or the holder of the credit
limit entitled to enter a proportional quantity
of wheat from the total supply free

§ 4. The flour and the cereal warehouse rules, for home consumption except on payment of the import duty.

7. The Board of Directors of the Corporation
8. Where there is fraud or the possibility of the
deport, it is forbidden to do so.

The Average Price IV is derived from the data for the period from 1910, to the date of the issue of the bond, and is based on the average price of the bond for the period.

[illegible]

1 The
repeated to her as it
had no pork, cattle,
swine and fish of foreign
origin. It is a
supplanchino also, to
oil, blanching, spicery
honey and wine, are
of foreignness from the
swine or otherwise the
not from a foreign por
dine 13 e 20 an all
without only 40. res.

[illegible]

that, § 10. Drawback to be allowed on tobacco, unless where the full duty has been paid on the bulk, and where there is no substitution. Attempts to obtain drawback fraudulently, involve besides any other penalty, within the amount of drawback sought, or 50% of the amount of the drawback, or either of the tobacco.

§ 11. Manufactures imported with marks bearing to be those of manufacturers in the United Kingdom, (continued).

§ 12. Sports may be imported in stone bottles not exceeding the size of quart bottles, if really part of the cargo, and included in manifest, &c.

§ 14. Seignior to be included in the list of commodities for which no abatement for damage in the voyage is allowed.

§ 24. 26. Provision for standard issue of double-sided money for collection for the benefit.

(d) The provisions of § 90a, IV, a, 2d, for taking the average of brown sugar, the provision of American, to be extended to East Indian sugar, and the average to be struck between such

Imports undervalued, § 14. In relation to the protection of the revenue in case of imports undervalued, the officers may detain and move such goods, and within 10 days after they are finally examined in virtue of a duty paid entry, take them for the use of the crown, when the commissioners are to pay the proprietor his valuation, with 10 per cent. on the duties paid, on full satisfaction to the proprietor. § 14. Section 131 of 3 & 4 Wm. IV. c. 10, as to converting of bonds within three years, not to extend to bonds for the exportation of, or the payment of duty on, warehouse goods.

Abies, 17 No. 18. In the garden, 6 & 7 Wey. 1900, on foreign ground. It collects, among others, and weak, to be used in the case of mastication, even, coffee, certain lilies, curvate, etc. Guinea grains, hysteronia, Malay banana, new venetian, spirit, orange, pepper, raisins, rhubarb, marigolds, young, spirit, sugar, tea, tobacco, and wine.

Drawbacks. § 12. No drawback to be allowed on the exportation of goods of less value than the drawback claimed: and when goods of less value are entered, they are to be forfeited; and the persons entering to forfeit £200 or triple the value of the drawback claimed at the discretion of the commissioners. § 13. On entry outward of goods obtaining drawback, and before export, bond to be given to double the value of the goods with one surety, that they shall be duly shipped and exported: and landed at three port of destination, or otherwise presented for to the commissioners. § 14. Doubts as to the validity of bonds by merchants, on which indigments have been granted by the Treasury or the commissioners put an end to.

§ 45. Drawback on linens, used in clothing, discontinued. § 47. The drawback on diamond rice is to apply to the new duties on foreign rice.

[redacted] [redacted] from duty-
[redacted] [redacted] [redacted] in action, re-
[redacted]

Article 27 of the Mexican Law of 23 of 4 W. 13
 as to the prohibition of the trans-
 fer of certain property rights is repeated after its
 first part and the rest of the article shall
 remain in force. It is hereby ordered that a copy-
 right of the author of the present law be reserved
 for the people and the government, or for the
 government and the people, as the case may be,
 in order that the author of the present law, stating that
 he is the author of the present law, be entitled to
 the use of the present law.

Certificate, § 57 The provision which requires a certificate of clearance out when a benefit is derived from the cargo being cleared

and from British America extended to all goods from British Possessions abroad, except the three India possessions. § 20 The treasury is authorized to devise a certificate of production necessary in any case of importation and to frame regulations accordingly. In absence of such certificate or a certificate of clearance where that is necessary the goods are held as foreign imports.

Tinware, § 21 Importers of tinware to pile it suitably for measurement and in the measurement no deduction to be made for interstices. Mattings, carpets, doilies and plaids according to feet may be measured by the paces.

§ 43 *Affairs of the Channel Islands or Man.* Goods of foreign materials, liable to duty which have not paid duty or have obtained a drawback, except linen and cotton from Man) to be considered foreign imports. [By c. 22, § 1 the provision is declared not to extend to any manufactures of the islands, the materials of which are not foreign.]

DESIGN. On 24th August 1842 an act (5 & 6 Vict. c. 10) was passed to consolidate and amend the laws relating to the copyright of the signs for ornamenting articles of manufacture.

In chief provisions are the following:

§ 1 27 Geo. III c. 39 29 Geo. III c. 10 24 Geo. III c. 23 and 2 Vict. c. 13 repealed. § 2. All copyrights constituted by those statutes to remain in force for the time limited thereby. § 3. Different lengths of copyright according to the manufacture to which the design is applicable, as follows: In the 1st 2d 3d 4th 5th, 6th, 7th, and 11th classes, for 1 year. In 7th, 8th, and 11th for 6 calendar months. In the 10th and 11th for 12 calendar months. The manufactures are as follow: 1st Metals, 2d Wood, 3d Glass, 4th Earthenware, 5th Paper hangings, 6th Carpets, 7th, 8th, 9th, 10th, 11th (Other shawl patterns) 12th Prints for yarn thread or warp, 13th, Prints for woven fabrics composed of linen cotton wool silk or hair—articles in class 11 excepted. 14th. Pictures—prints for fabrics of linen, cotton, wool, silk, or hair, the repeat of the design being more than 12 by 8 inches. 15th Woven fabrics not in any of the above. 16th Lace and any other manufactures not included in the above.

§ 4. To create copyright the design must be registered. § 5. The inventor is to be considered as proprietor, unless he has been hired and in that case the employer is to be proprietor. The right is alienable and otherwise passes as ordinary property. § 6. Acquisitions of property in designs to be registered. A form of transfer and authority to register &c. § 7. Prohibition against making use of registered designs by fraudulent imitation &c. and against sale of fraudulent imitations after notice from the proprietor, or knowledge otherwise obtained of the fraud. § 8. Penalty for printing not less than £5, or more than £20. § 9. The remedy not to preclude an ordinary action of damages. § 10. Penalty for wrongfully using registration marks in designs for each offence a sum not exceeding £5. § 11. No actions to be brought under the act after 12 months from the commission of the offence.

§ 12. The designs are registered in accordance with the following provisions: give a certificate which is to be prima facie evidence of the registration, the originality of the design, the proprietor's name, the date, &c. § 13. Where the copyright has expired, registered designs are inoperative, but where it has not expired there can be no inspection except with written authority from the proprietor or with special permission of the registrar and in presence of an officer, who is to prevent a copy being taken.

This act is solely applicable to England.

EMIGRANT. In 1842, a new act, 5 & 6 Vict. c. 10) was passed for regulating the emigration of passengers or emigrants in merchant vessels. Its chief provisions are the following:— § 1. Vessels proceeding beyond 100 miles are not to carry more than 3 persons for each 3 tons register including master and crew. The space clear for passengers is to be thus assigned:—on the lower deck, one passenger for every 10 cubic superficial feet or if the ship be to pass within the tropics, for every 12 feet on a voyage not more than 12 weeks, and for every 15 on a voyage more than 12 weeks. Under the poop, and on the upper deck if any, 1 passenger for 20 feet. §§ 3 & 4. Rules as to the construction of the decks. § 5. There must be no more than 3 tiers of berths, and the interval between the floors of the berths and the deck beneath must not be less than 6 inches. The berths to be securely constructed, not less than 6 feet long and 18 inches wide each.

§ 6 & 7. There shall be issued daily water at the rate of at least 3 quarts for each passenger per day, also not less than twice a week provisions at the rate of 7 lbs. of bread, barrel, flour, oatmeal or rice per week, one half at least of the supply to consist of bread or oatmeal; potatoes may be employed in the stead of the remaining half, reckoning 5 lbs. potatoes equal to 1 lb. of the other articles. And no ship shall be cleared out until laden with sufficient quantities to sustain the voyage to N. America, West India, Bahama, and Guiana at 10 weeks, to Central or N. America except W. coast and W. coast of Africa, 12 weeks, to Cape of Good Hope, 15 weeks, Mauritius 18 weeks, W. Australia 20 weeks, other Australian colonies, 22 weeks, New Zealand, 24 weeks. If calling at intermediate place, the supply to be computed to such place, and the requisite quantity there re-ordered. Two children each under 14, deemed one passenger, infants under 1 year not counted.

§ 10. Government migration agent, and where there is none, the collector and comptroller of customs, to inspect each vessel before clearing out, and attend to the enforcing of the act.

§ 12. Vessels must have physicians on board where they carry 100 passengers (which it be to North America) or 50 passengers on a voyage longer than 18 weeks. All vessels must have medicine chests.

§ 20. Passage brokers require a license.

There are remedies to intending passengers who have their passage through the carelessness or fraud of the parties, and in other cases of fraud and neglect. And there are clauses for extending the act to the colonies and India.

In 1841 1,183 persons emigrated from the U. K. and in 1842, 1,203 persons.

PAGE 1018. The law relating to advances made by agents intrusted with goods was amended in 1842 by the act 5 & 6 Vict. c. 20 of which the following is a full abstract:—

§ 1. In reference to 6 Geo. IV c. 94 which leaves doubts as to how far agents may pledge goods for security on advances made. That any agent intrusted with goods, or the documents and titles to them, is to be considered as the owner so far as to give validity to any contract or agreement by way of pledge them, or security and the made by any person with such agent as intrusted as aforesaid, both for original advances and continued advances, the contract being binding, though the persons making the advances have had notice that the holder is merely an agent.

§ 2. The security may be exchanged, i. e. if a person has already advanced to an agent, on deposit of merchandise, documents or security, he may receive it and receive some other in

exchange, on the same terms as if he had made an immediate advance on the exchanged security. But the lien on such exchanged security is not to exceed the value of the previous security.

§ 3. The act only to protect *bond fide* advances in which there is no notice that the agent is acting fraudulently or without authority; but a mere notice that the agent is not the owner will not affect the validity.

§ 4. Documents within the meaning of the act are, "any bill of lading, India warrant, dock warrant, warehouse-keeper's certificate, warrant or order for the delivery of goods, or any other document used in the ordinary course of business as proof of the possession or control of goods, or authorizing or purporting to authorize, either by indorsement or delivery, the possessor of such document to transfer or receive goods thereby represented." The agent possessed of such a document, whether derived immediately from the owner, or as an accessory to the possession of the goods, is entitled, by pledging it, to give a pledge on the goods it represents, whether the goods be in the actual custody of the agent, or in that of some other person under his control. On an advance being made, on the faith of an agreement in writing to consign, deposit, or transfer goods or documents, when the transference, &c. is made, the transaction is good under the act, as if it had been made at the moment of advance. "And any contract or agreement, whether made direct with such agent, as aforesaid, or with any clerk or other person on his behalf, shall be deemed a contract or agreement with such agent; and any payment made, whether by money or bills of exchange, or other negotiable security, shall be deemed and taken to be an advance within the meaning of this act; and an agent in possession as aforesaid of such goods or documents, shall be taken, for the purposes of this act, to have been intrusted therewith by the owner thereof, unless the contrary can be shown in evidence."

§ 5. Nothing in the act is to affect the ordinary legal responsibility of an agent to his employer.

§ 6. An agent acting fraudulently, in taking, for his own behoof, advances on the goods consigned to him, is liable to transportation. A clerk or other person accessory is punishable in like manner. No agent is punishable for fraud, however, who takes no more on the security than his principal was owing him at the time, counting accepted bills. An agent's conviction is not to be evidence against him in a civil action; and an agent is not liable to criminal prosecution for an act which he has previously had to disclose

on a reference to oath, "or if he shall have disclosed the same in any examination or deposition before any commissioner of bankrupt." (N.B.—This would probably be held to apply to sequestrations in Scotland.)

§ 7. The owner may recover his deposit at any time before it is sold, by repayment of the advance, and of any debt which the agent may have a lien for; and if the deposit shall have been sold, he may recover any surplus over the advance. In case of the bankruptcy of the agent, an owner who has redeemed as above, "shall, in respect of the sum paid by him on account of such agent for such redemption, be held to have paid such sum for the use of such agent before his bankruptcy; or in case the goods shall not be so redeemed, the owner shall be deemed a creditor of such agent for the value of the goods so pledged at the time of the pledge, and shall, if he think fit, be entitled in either of such cases to prove for or set off the sum so paid, or the value of such goods, as the case may be."

FRANCE. The *Retenue* or charge made to the importers of bullion into the French mints, for defraying the expenses of coinage, was fixed by royal ordinance, June 30, 1835, at 6 francs per kilogramme for gold, and 2 francs per kilogramme for silver; making the prices paid by the mints (instead of those given on page 313), 3094 francs per kilogramme for gold, and 198 francs per kilogramme for silver.

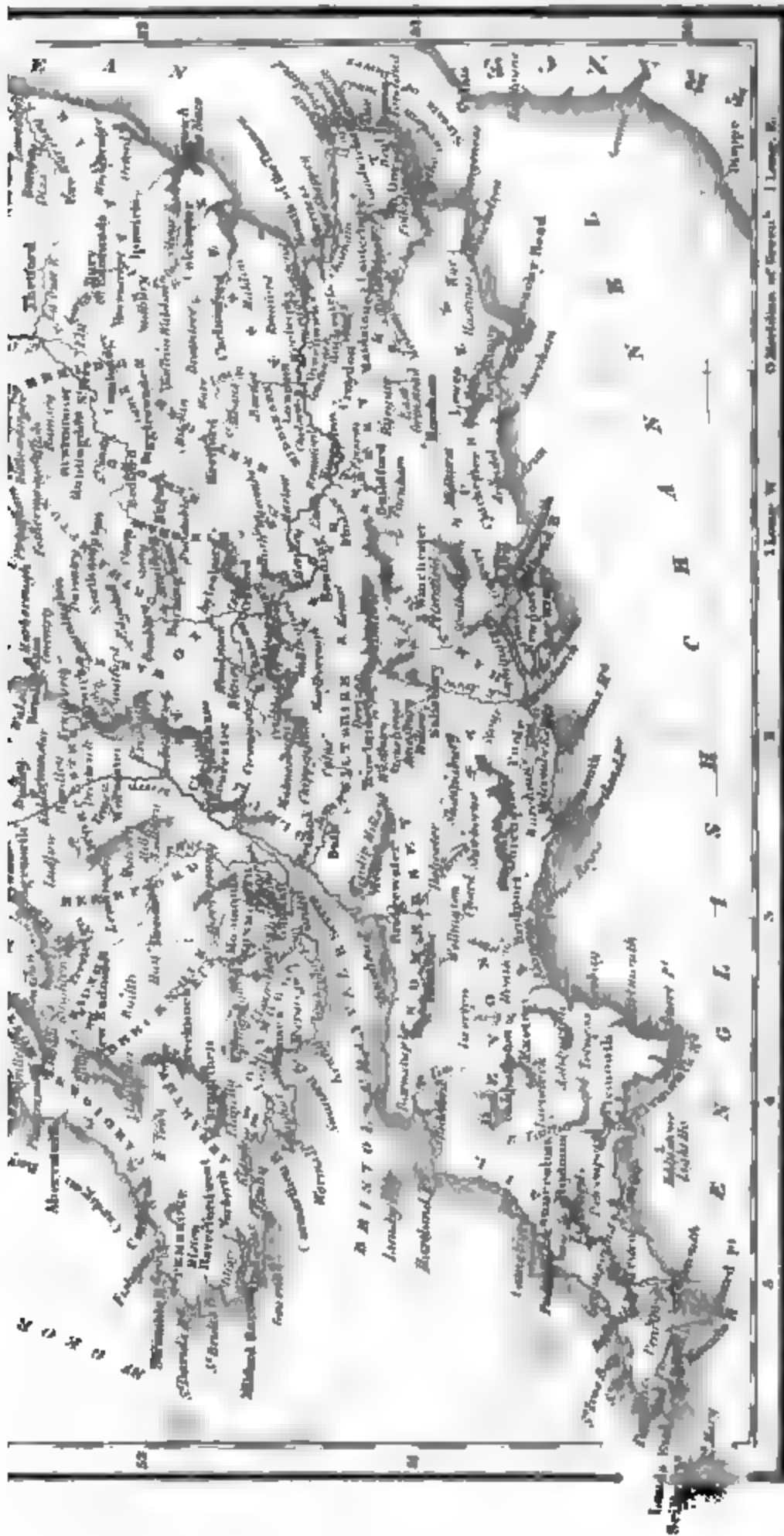
The annual production of iron should have been stated on page 306 at only 3,477,000 quintals.

MACHINERY. The prohibitions affecting the exportation of machinery have been again relaxed. The relaxation is explained in the following extract from a letter addressed by Mr J. G. Shaw Lefevre on behalf of the Committee of Privy Council for Trade, to the Manchester Chamber of Commerce, dated Sept. 8, 1842:—

"I am directed by the Lords of the Committee of Privy Council for Trade to inform you, that my Lords have recently recommended the Lords Commissioners of her Majesty's Treasury to grant permission to export certain classes of machinery to which, hitherto, that permission has not been granted. Amongst the machinery for which permission has recently thus been granted, is included machinery for the spinning of cotton and wool; and it is the intention of my Lords to recommend the adoption of the like course as respects all machinery for spinning and manufacturing the above, as well as other substances, excepting those which are used in or applicable to the spinning or manufacture of flax, tow, linen, or lace."

THE END.



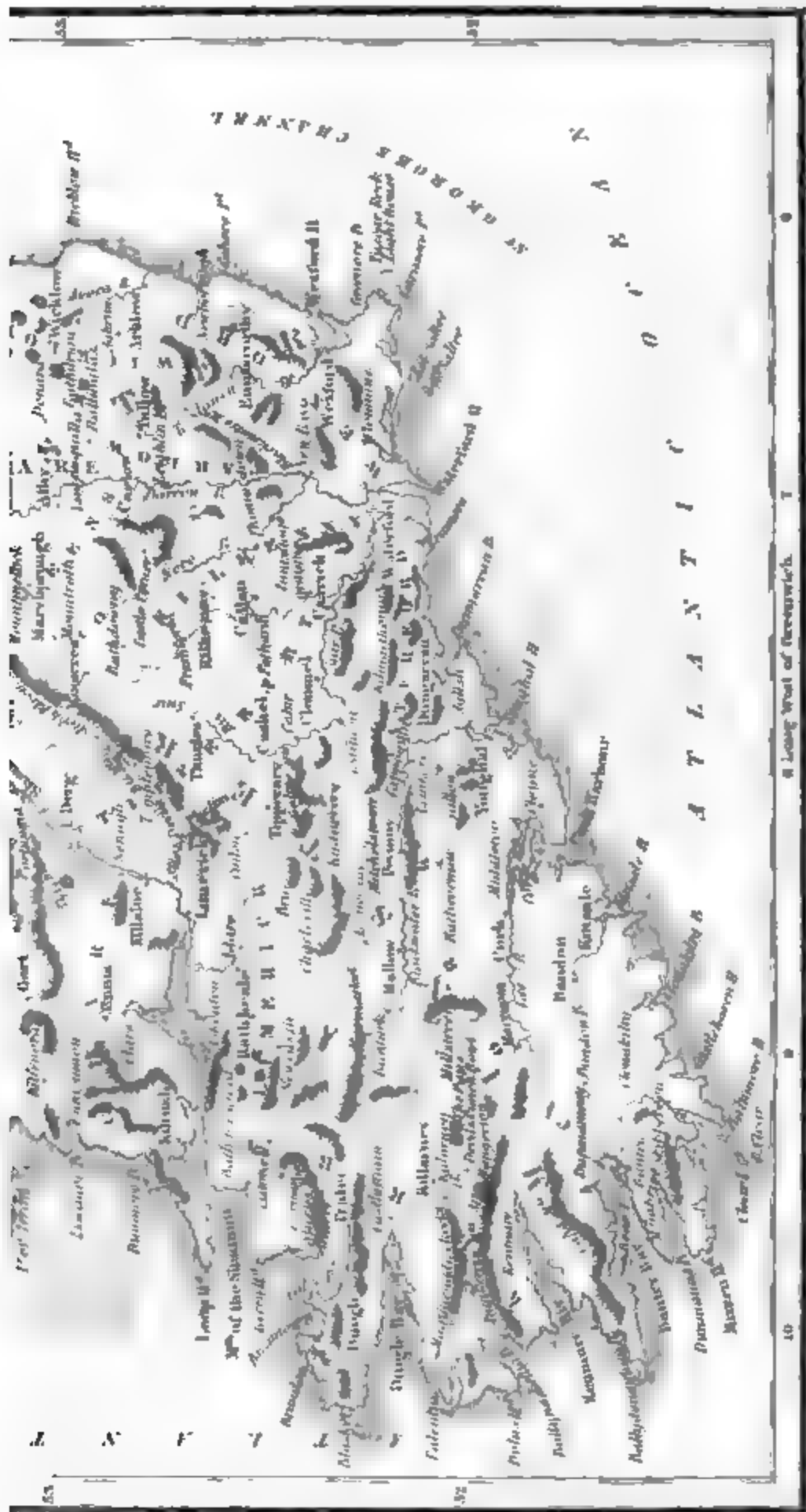


CHESAPEAKE BAY, BY ALGER & BATES, 1850.

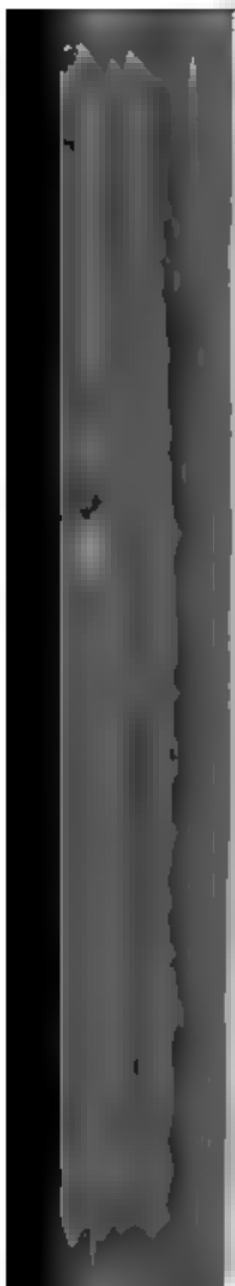


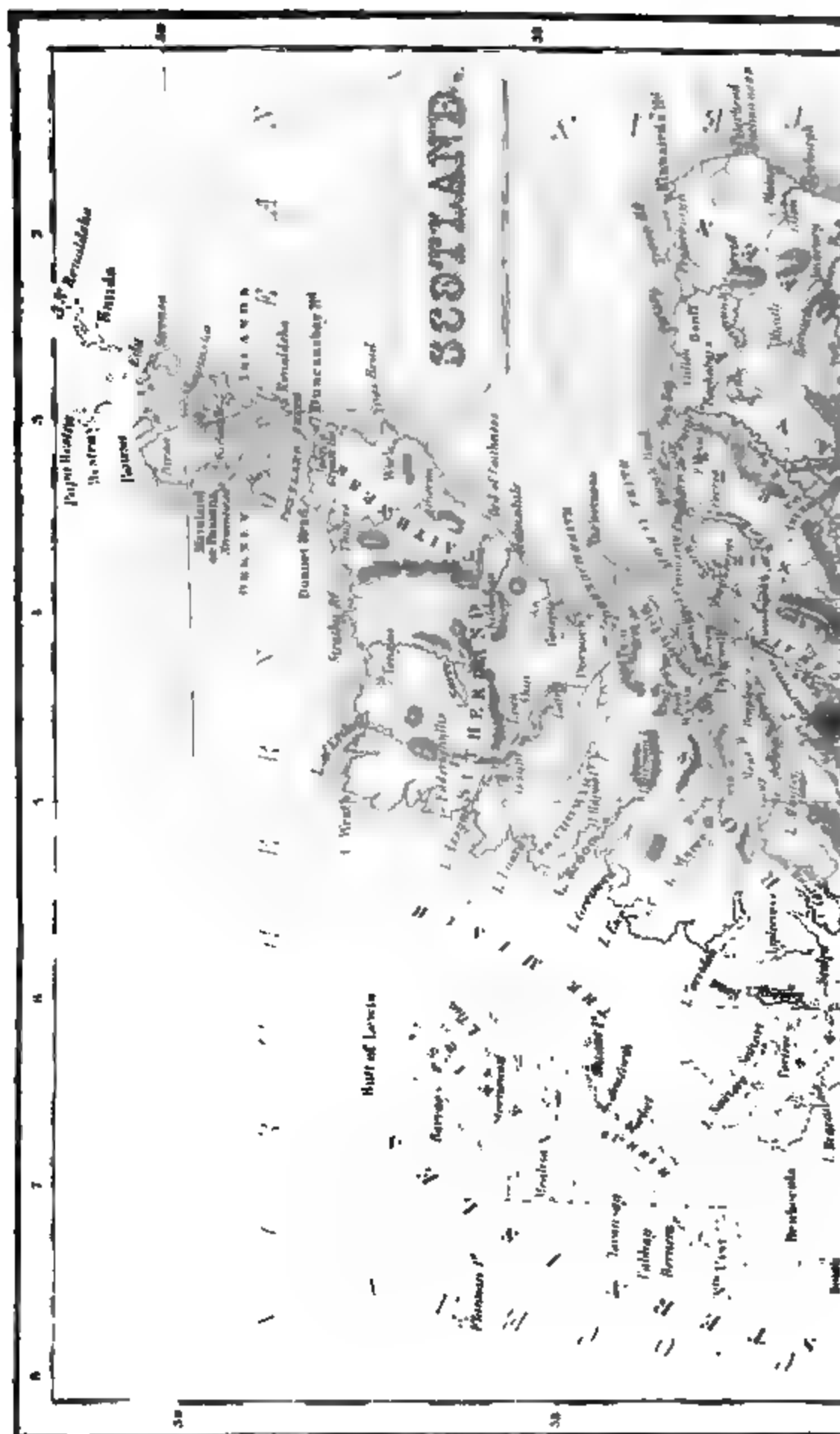
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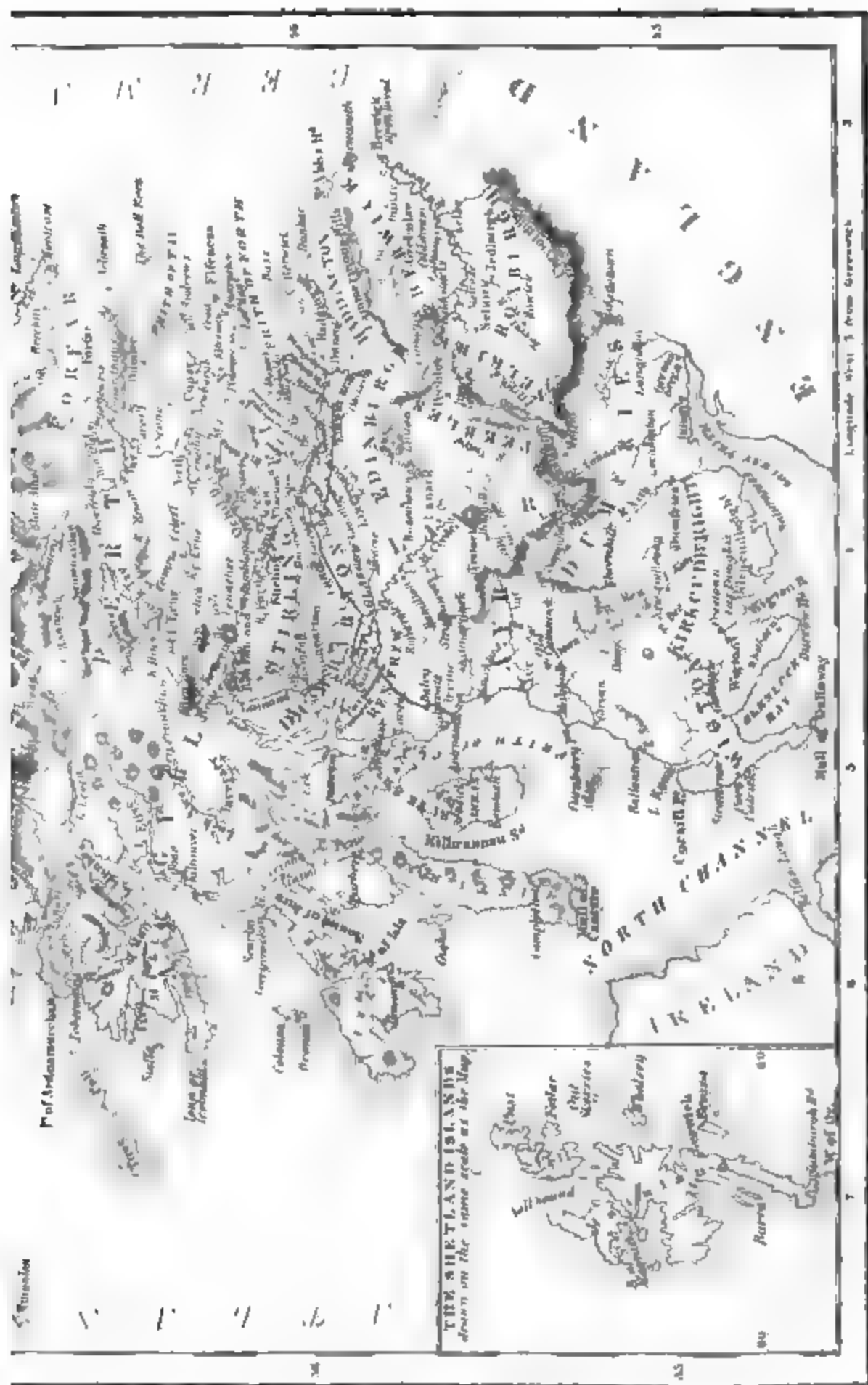




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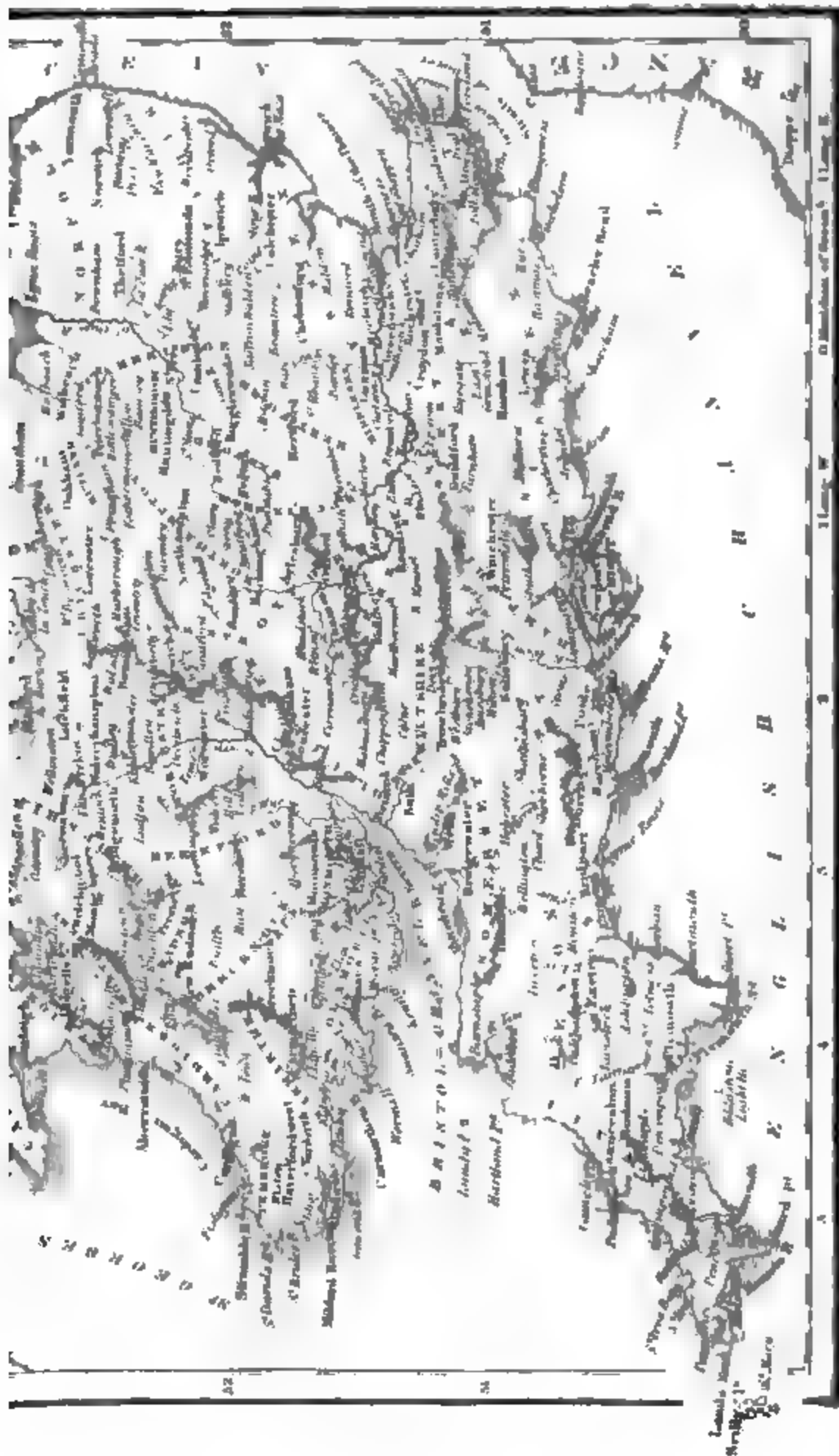
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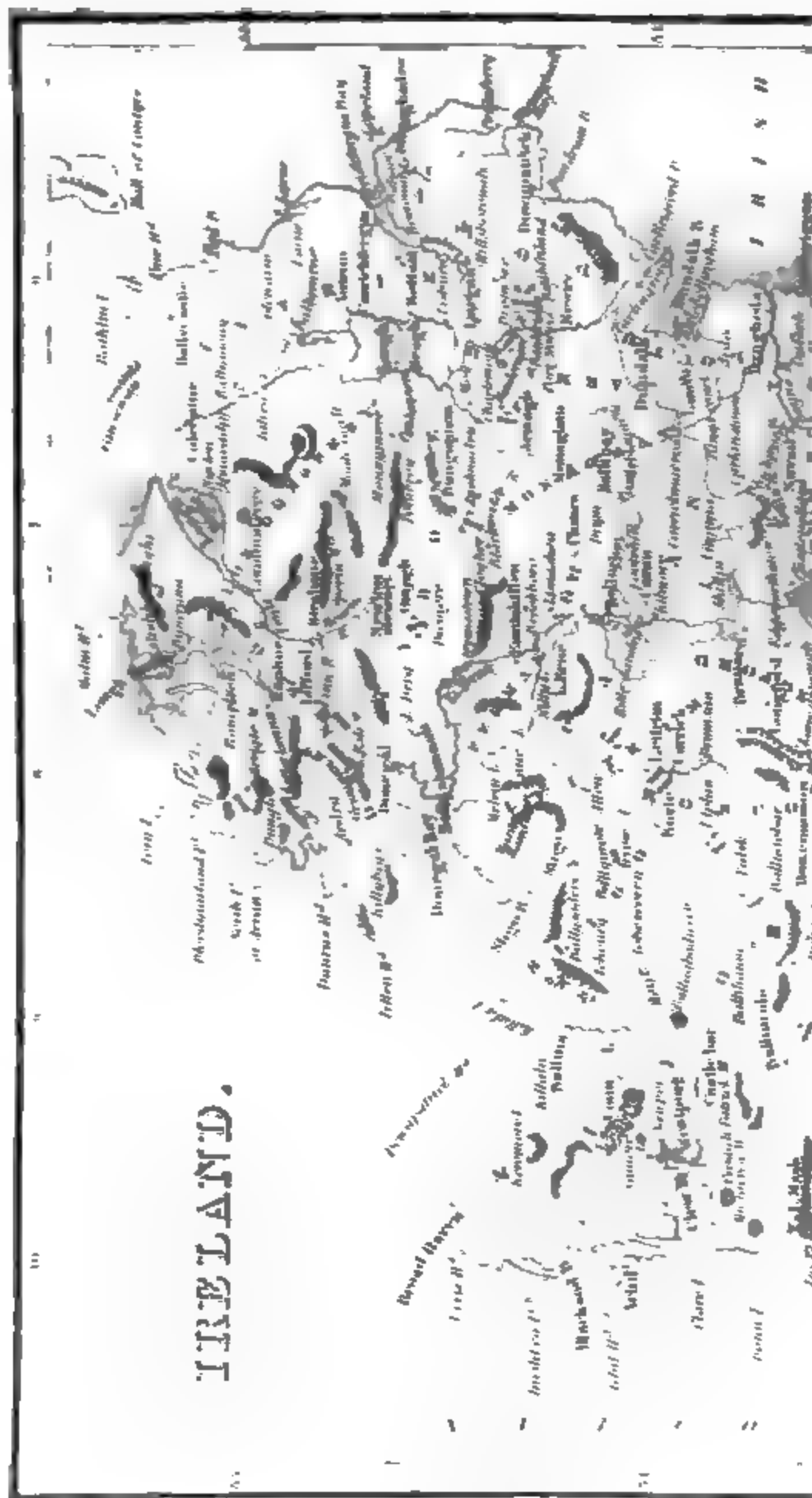




MAP DRAWN BY OLIVER & SONS, ENGLAND.

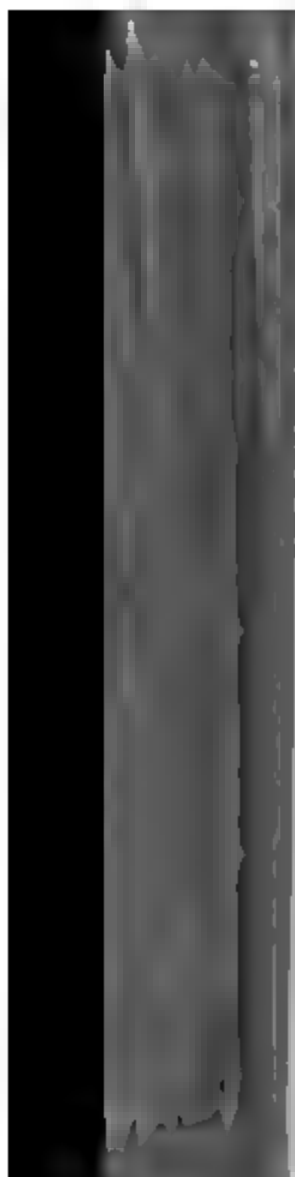


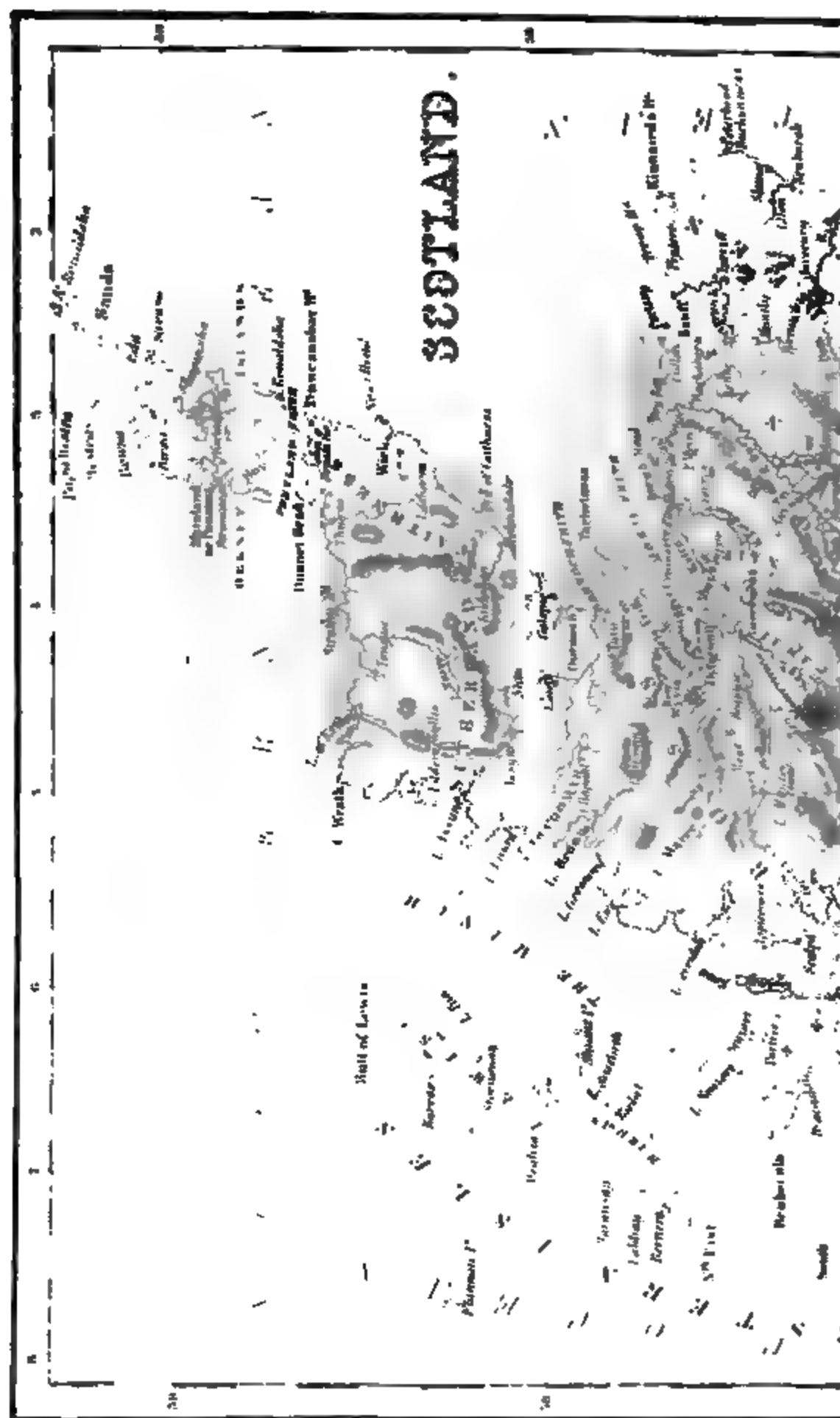
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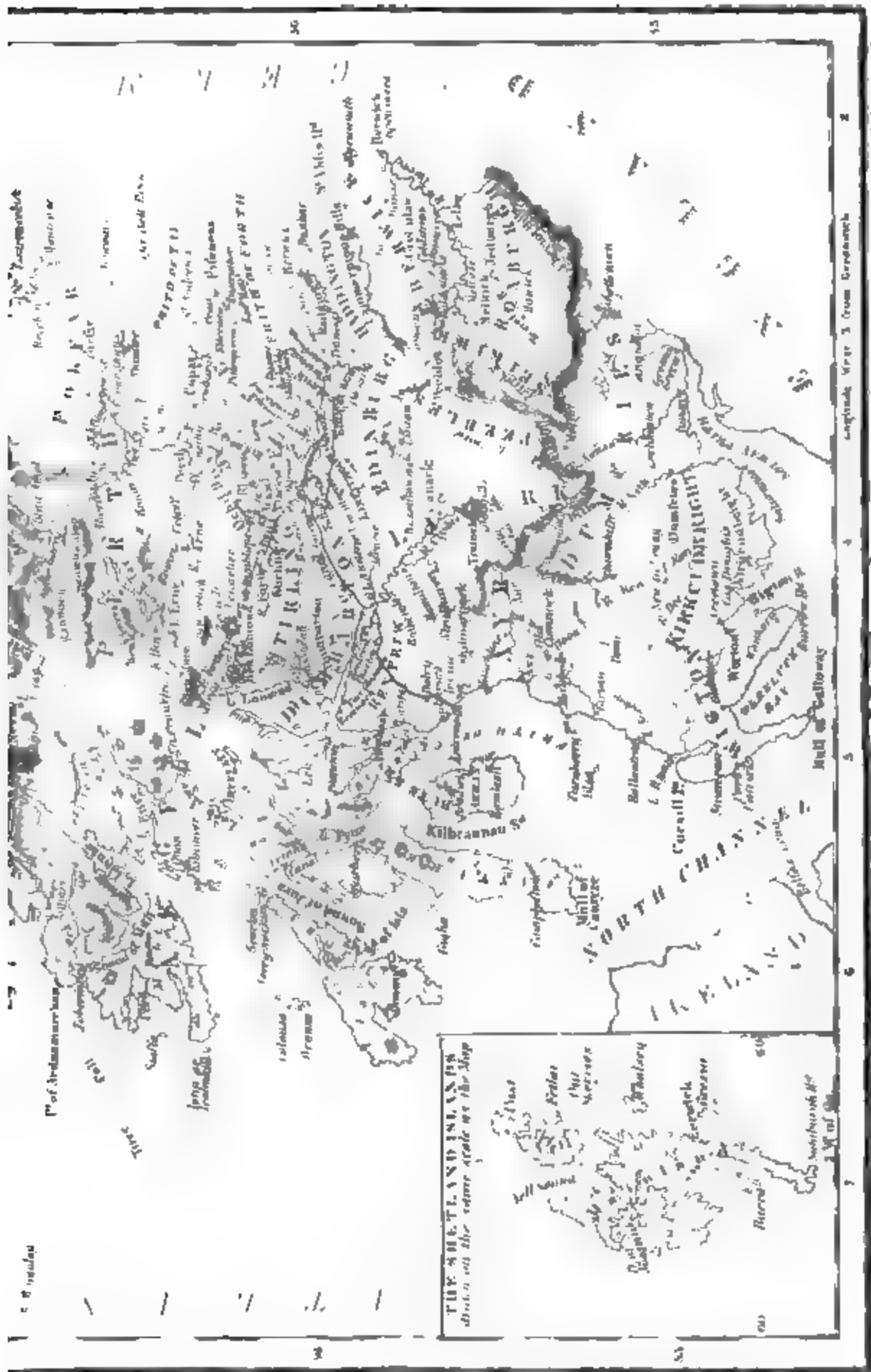




WICK, SLEIGH AND Lough Swilly, IRELAND.







THE HAWAIIAN ISLANDS
shown on the same scale as the map









